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In view of an increase in our paper ration from the beginning of November, we are now prepared to accept a limited number of new home subscribers. The arrangements for accepting all new overseas subscriptions remain unchanged

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THE RAILWAY GAZETTE

33, TOTHILL STREET, WESTMINSTER, S.W.1.

Railway Maintenance Difficulties

IN our November 15 issue we drew attention to the serious position which has arisen on the British railways because of the impossibility of overtaking the heavy arrears of maintenance resulting from the war. Last Monday the Transport Correspondent of *The Financial Times* pointed out that for some weeks large numbers of passenger trains have been unpunctual. There have been cancellations of services in some cases, and, more serious, there have been widespread restrictions on the forwarding of freight, with consequent interruption to industrial activity. So far, the weather has been reasonably good, but some apprehension is felt as to whether, with the onset of winter, the depleted resources of the railways may be able to cope with the situation. He also holds the view that even after the winter there may have to be a general reduction of train speeds. Even had the means been available, there would have been difficulty in carrying out the necessary work, for the volume of traffic, though less than in 1945, is still above pre-war, as shown in the table below:—

	Weekly averages main-line railways		
	1938	1945	1946†
Loaded wagon-miles—			
Merchandise	36.9*	44.8	40.7
Minerals	5.9*	8.2	8.6
Coal	16.5*	17.8	17.4
Ton-miles—			
Merchandise	96*	170	144
Minerals	56*	83	85
Coal	157*	171	168
Passenger journeys‡	96.5	109.4	102.0(a)

* 20 weeks to December 27. ‡ Monthly averages, Great Britain. † January August. (a) January-June

About 150,000 ordinary passenger trains are run weekly by the main-line railways at present, apart from special trains and freight services. The railways are short of about 5,000 carriages compared with pre-war. More than 170,000 wagons are out of service for repair, or more than twice the number than can be considered healthy.

* * *

Railway Nationalisation Purchase Terms

A surprising conclusion is reached by *The New Statesman* in a discussion of the purchase terms which the Government proposes to apply to railways, if, and when, nationalised. It states that, "on the face of it, the shareholders have no grounds for complaint." That will surprise many who see their income cut to ribbons under the proposed plan of payment. Nor is it easy to see exactly where the "windfall" comes in to the holders of debentures and other prior charges, which *The New Statesman* seems to think they will enjoy. But its further comment that "if the compensation stock bears 2½ per cent. interest, railway shareholders will enjoy in perpetuity a guaranteed income which may well be in excess of what they would otherwise have received, having regard to the fact that large sums must be found for making good arrears of maintenance on the lines," overlooks the fact that provision already has been made, under the control agreement, for arrears of maintenance, and that these funds, in excess of £100,000,000, will pass to the State. The further suggestion that the Government one day may have to decide whether the claims of ex-owners of socialised undertakings can be borne indefinitely, or will not have to be met by the issue of terminable annuities, seems to be equally out of touch with realities. If, after compulsorily acquiring some £2,000,000,000 of railway assets for approximately £1,024,000,000 of Government stock, and replacing the present Government rental of £43,000,000 with an annual income of £25,500,000 (assuming a 2½ per cent. compensation stock), the bargain is to be open to further downward revision, the confiscatory element in the deal becomes pretty well as near complete as would be possible.

* * *

Pullman Car Company and Nationalisation

The Government's present nationalisation of inland transport proposals, so far as they are known in broad outline, are sufficiently sweeping to make it unnecessary to add gratuitously to the list of undertakings which it is proposed should be taken over. The City Editor of *The Sunday Express*, however, last Sunday said that Mr. Barnes, the Minister of Transport, appears to have forgotten all about the Pullman Car Company, and that he had given no clue whether that com-

pany was to be bought out, or was to remain as a last vestige of free enterprise on our State-owned railways. The position seems to be sufficiently clear. The Pullman Car Co. Ltd. is not railway owned, and there would seem no more justification for expecting it to be taken over by the State than there would be for the national acquisition of the bookstalls, chemist shops, tobacco kiosks, or flower shops, and so forth, which are at the stations. In the event of the nationalisation proposal being implemented, the Pullman Car Company presumably will continue to make its arrangements with the State-owned railways. *The Sunday Express* City Editor adds that there are now 120 Pullman cars back in service, covering a total of 25,000 car-miles a day, and that each traveller in a Pullman spends an average of 3s. 6d.

* * * *

International Sleeping Car Company

The report for 1945 of the Compagnie Internationale des Wagons-Lits (International Sleeping Car Company) shows that the total loss for the years 1939-44 inclusive was 44,671,000 Belgian francs. Gross receipts for 1945 were fr. 162.5 million, and after payment of interest and other charges, losses were shown of fr. 38.6 million due to the war, and of fr. 265.4 million on securities. A total loss of fr. 225,427,000 is carried forward, being a deficit of fr. 180.7 million for the year together with the amount brought in. The report records the conclusion of an agreement with Thomas Cook & Son Limited, the Custodian of Enemy Property, the Hay's Wharf Cartage Co. Ltd., and the four British main-line railways, establishing the conditions for collaboration between the Wagon-Lits company and Thomas Cook & Son Limited for a period of twenty years. Among the provisions of the agreement are the cancellation of arrears of interest since 1940 on the £1,015,000 sterling "A" bonds of the Wagon-Lits company held by Thomas Cook & Son Limited; the handing over to the company, by Thomas Cook & Son Limited, without payment of arrears, of £203,000 "A" bonds; and the renunciation by Thomas Cook & Son Limited of future interest payments on the remaining £812,000 "A" bonds, which will be handed over to the Wagon-Lits company in ten-yearly instalments.

* * * *

Relieving Rush-Hour Traffic Peaks

Rush-hour traffic in London has reached a point at which it can no longer be alleviated by the provision of more transport services and vehicles. The Minister of Transport, therefore, called a conference on November 19 with representatives of London Transport, and employers and workers in the central area of London, to discuss the possibility of relieving pressure by staggering hours of work. Lord Ashfield, Chairman of the London Passenger Transport Board said, in introducing the board's statement, that 400,000 or more people now seek to travel in the morning and evening peak hours. The suggestion was that a relatively small proportion of these travellers should adjust their daily routine in order to improve travel conditions for themselves and others. The scheme was described in detail by Mr. A. B. B. Valentine, Chief Commercial Officer, London Transport, who said it was proposed to divide the Central London area into 14 districts, in each of which a local transport group would be formed to provide the transport undertakings with data from which the scheme for staggering working hours within the districts could be evolved. He was confident that if such machinery were set up and worked with goodwill, there would be little inconvenience to employers or their staffs.

* * * *

Cutting U.S.A. Night Travel

In the most recent long-distance train accelerations in the United States, a considerable effort has been made to cut overnight travel to a minimum. Hitherto, with the exception of the extra-fare streamline trains between Chicago and the Pacific Coast, which have offered evening departures from Chicago and arrivals in Los Angeles or San Francisco on the morning of the second day, these journeys of 2,227 to 2,299 miles could not be made without spending three nights in the train. With the reorganisation of service which became effective in June, 1946, however, a number of the principal expresses by both the Chicago & North Western-Union Pacific and the

Santa Fe routes had the third night cut out of their schedules. What this meant from the operating point of view may be realised when it is pointed out that schedule curtailments of from 11 to 14 hr. at one stroke were involved. In these accelerations the new coast-to-coast through sleeping car services benefited equally. It is now possible to leave New York in a through car on the "Commodore Vanderbilt" of the New York Central at 3.45 p.m., and to be in Los Angeles, by means of a new C.N.W.-U.P. train called the "Transcontinental," at 10.20 a.m. on the morning of the third day; or departure from New York by the "Lake Shore Limited" at 6.30 p.m. brings the through passenger into San Francisco by the "Overland Limited" at 2.20 p.m. on the third day. These were accelerations of 15 and 14½ hr. respectively; the distances covered are 3,233 and 3,260 miles in all.

* * * *

Mechanical System for Sleeper Handling

A great advance in the abolition of gruelling and expensive manual labour has been made in the extensive Atlanta (U.S.A.) yards of the Southern Wood Preserving Company, which supplies sleepers to American railways. Nine or ten men now can operate the electrically-driven machines and hoists by which the "green" sleepers, which normally arrive in covered box wagons, are unloaded, stacked, placed on specially designed all-steel "trams," and taken to the seasoning yard. After seasoning, the sleepers are loaded again on to the flat trams and shunted to the adzing and boring mill. The plant is described and illustrated elsewhere in this issue. The old system of manual handling and stacking was particularly difficult during the war, because of the severe shortage of men, which, with the sharply rising labour costs, stimulated the introduction of the new methods. Mechanisation undoubtedly would have come in view of the increasing size and weight of American sleepers; the problem had been foreseen for twenty years. Under the new system at the Atlanta yards, satisfactory figures have been obtained from an analysis of the working expenses during March, 1946.

* * * *

A 100-ft Aluminium Bridge Span

To counteract lack of precedent and insufficient knowledge of aluminium as a suitable material for bridgework—and particularly for movable spans in coastal areas—where its light weight and non-corrosive properties may justify an initial cost higher than that of steel, the Aluminium Company of America is experimenting with a 100-ft. aluminium railway span. At Messina, in New York State, the Massena Terminal Railroad crosses the Grasse River on a bridge comprising a series of 100-ft. plate-girder deck spans. For testing purposes, one of these spans is made entirely of 14 S-T aluminium alloy; the girders have 10-ft. × ¼-in. web plates and 8-in. × ½-in. angles; the rivets were cold driven. Although this single-line span is up to Cooper's E-60 loading, it weighs only 23½ tons. Apart from the fact that it is slightly deeper, it is almost identical in design with the other spans in the bridge, which, however, are of steel, and each weighs over 57 tons. Due to its light weight, the aluminium span was shop fabricated and erected whole with a locomotive crane, whereas the girders of the steel spans had to be erected separately, and the bracing subsequently riveted *in situ*. The Aluminium Company hopes that information provided by this span will establish confidence in the alloy for bridge-work.

* * * *

The First American Oil-Burning Locomotives

Some interesting historical claims were made recently by Mr. F. G. Gurley, President of the Atchison, Topeka & Santa Fe Railroad. He claimed that the Santa Fe was the first railway in North America to perfect apparatus suitable for oil firing on steam locomotives. In 1894, the Santa Fe was importing coal from as far away as British Columbia and even Australia, but by 1896 more than half its locomotives in Southern California had been converted from coal to oil burning. Since then, the Santa Fe was probably the first railway to introduce exclusive working with diesel-electric locomotives of a heavy freight traffic over so great a length of a principal main line as 459 miles between

Winslow, Arizona, and Barstow, California—the most difficult stretch of the whole route because of gradients, altitudes, and lack of water. Radio communication on trains, electronics for finding defects in steel, and the evolution of a machine for cleaning ballast *in situ*, have all engaged the attention of Santa Fe engineers with success.

Transport Nationalisation

WHEN the Minister of Transport made his statement in the House of Commons on November 18, as to the compensation to be paid by the Government for the acquisition of the railways, canals, and L.P.T.B., he claimed that he was doing so to put an end to uncertainty. This claim was only partially true, however, as he was unable to state what rate of interest would be paid on the new Government stock to be issued in exchange for railway stocks, or to give any indication as to whether it would be a dated stock.

Further, stockholders would do well to remember that it does not follow from the Minister's statement that they will receive automatically the "take-over" values mentioned by him, for he specifically stated that for each £100 (nominal) of stock, the holder would receive such an amount of Government stock as is, in the opinion of the Treasury, equal in value at the date of issue to the amount stated when regard is had to the market value of Government securities generally at the date the stock is issued. This provision is similar to that in the Cable & Wireless Act, 1946, and means that the amount of Government stock to be exchanged for each £100 (nominal) of railway stock will be dependent on the state of Government credit at the time of issue, and also on the presumably unchallengeable decision of the Treasury. A careful examination of the list of railway stocks discloses various anomalies in their "take-over" value, and although more, doubtless, will be heard on this point, the absence of provision for negotiation with the Government is likely to be a handicap.

One reader has suggested to us that the proposed compensation terms are unsound and inequitable, inasmuch as a stock exchange evaluation of the loan and share capital bears no fundamental relation to the intrinsic value of the property to be acquired. He contends that, as the Government has agreed the annual net rental value of the property at £43,469,000, the acquisition of the property by the Government resolves itself into the simple formula used for the redemption of a freehold, which is the provision of a capital sum to produce in perpetuity £43,469,000 a year. A 2½ per cent. table (40 years' purchase) applied to the net rent mentioned produces a capital redemption sum of £1,738,760,000.

Somewhat naive suggestions have already been made in Labour circles that the savings accruing from the reduction in the present capital, and in the rates of interest, will become available for increasing the wage levels of railway staff, and may make it unnecessary for the Minister to accept any recommendations the Charges Consultative Committee may make in its report to him on the adjustment of railway charges in 1947. These, to say the least, are extremely premature, and, we imagine, are likely to remain but pious hopes in view of the Chancellor's apparent intention to substitute indirect taxation for direct taxation to a greater extent.

South African Royal Train

WE have already recorded in these columns the placing of an order by the South African Railways & Harbours Administration with the Metropolitan-Cammell Carriage & Wagon Co. Ltd. for 12 fully air-conditioned all-steel coaches, and from time to time we have given brief details of this rolling stock, part of which is for the Royal Train which will be used by the King and Queen and the two Princesses during their forthcoming tour of the Union. Elsewhere in this issue we illustrate and describe in some detail the coaches which are to be used for the Royal Train, which is a completely British-built product, and, moreover, will be drawn during the tour by locomotives from British works—either the "15F" class or Beyer-Garratts.

The building of this train has been a noteworthy achievement in several respects, not the least of which is the speed with which the order has been completed. The contract was

received at the end of last March, and although in conditions which were normal before the war, two years would have been a not unreasonable time for such an undertaking, it was the essence of the contract that delivery of eight of the coaches, and those the most important, should be made before the end of this year. The several different layouts required, and the number of special features which were incorporated, added complications to the tasks of design and production at a time when British manufacturers were beset by many difficulties of labour and materials, and the effects of the transition from war to peace production. There could be no question of the importance of fulfilling the contract, from the viewpoint not only of the prestige of the Metropolitan-Cammell organisation, which has long and valuable associations with the South African Railways, and, indeed, with customers in many parts of the world, but also from that of maintaining and enhancing the reputation of British industry in overseas markets.

The completion, which has been accomplished in about a third of the normal time, under conditions of great difficulty inseparable from undertaking work of this kind during the first post-war years, is an outstanding example of British enterprise, and one of which the Metropolitan-Cammell Carriage & Wagon Company and its sub-contractors in particular, and the railway supply industries in general, may well be proud. Into its building has gone the wealth of experience and technical skill which has been evolved from over a century of experience in the production of fine rolling stock, for the Saitley Works has been in existence for just over 100 years, during which time, on many occasions, it has been called on to manufacture rolling stock for many parts of the world.

The new train is a worthy ambassador of British craftsmanship. Despite the fact that the coaches are for a 3 ft. 6 in.-gauge railway, the width over panels is 9 ft. 3 in., and the height above rail level to carriage roof is 12 ft. 7½ in. They are, therefore, of approximately the same size as coaches on the British railways, which have a 4 ft. 8½ in.-gauge. The coaches have been designed with a view to providing the maximum comfort in the available space, and at the same time avoiding over-elaboration or any tendency towards lavishness. The exteriors are in cream with gold lining, and within, the excellent panelling of Empire woods blends with unostentatious furnishings. It is clear that in this important contribution to the British export trade, there has been excellent team work both within the organisation of the Metropolitan-Cammell company and with the large number of sub-contractors, all of whom are specialists in their respective spheres.

G.W.R. Labour Difficulties

THE extent to which comparatively trivial labour disputes quickly involve large numbers of men and cause great inconvenience to traders and the public far removed from the focal point of the trouble, has been very noticeable in recent months, and is well illustrated by the trouble which commenced at Paddington Goods Station on November 16. The facts are that on Friday, November 8, two G.W.R. employees refused to unload a lorry which arrived at the station after 4.30 p.m. This is normally the closing time for the acceptance of traffic, but in this instance the company had agreed specially to its acceptance.

The men concerned were issued with the usual form asking them for an explanation of their action, this being strictly in accordance with arrangements agreed with the men's union, the N.U.R., which have operated satisfactorily throughout the railway systems generally for a number of years. Acting on the advice, however, of about 10 members of the staff styling themselves the "Paddington Vigilance Committee," which has no recognised standing in the negotiating machinery agreed between the company and the union, the men refused to give the required explanations, and, on the instructions of this committee, the station staff commenced to go slow—in other words, to work strictly to rule, as from Saturday, November 9. Although the original cause of the dispute is small, we understand that the Vigilance Committee mentioned for some time has been endeavouring to impose its decisions on the management of the station instead of allowing disputes to be handled by the properly elected Local Departmental Committee.

A long meeting was held on November 18 between the company, the N.U.R., and the Vigilance Committee, when the last-

named refused to continue negotiations. Subsequently it made every effort to extend "go slow" working to other G.W.R. London stations, and over 2,000 men became involved at Paddington Goods Station, Paddington Parcels depot, South Lambeth, Acton, Brentford, Victoria & Albert, and other places. The men's action made it necessary to place an embargo on the acceptance of traffic, and this prevented over 5,000 tons passing through Paddington between November 16 and 21.

The action of this unofficial committee threatened to undermine the authority of the N.U.R., and on November 20 the Union Executive Committee ordered the men concerned to resume normal working at once and threatened disciplinary action against those concerned unless they complied with the order within 24 hours. The order was disregarded and on November 22 the N.U.R. Executive Committee took the drastic step of suspending from the union the whole of the members of No. 2 Paddington Branch, who are mainly those concerned, and threatening to suspend also the members of No. 1 Paddington Branch, of which a portion only was working to rule.

From its comparatively trivial origin the issue has developed into a fundamental one affecting the principles of the agreements governing negotiating machinery between the N.U.R. and the railway company, and the stand taken by the Union indicates the importance which it attaches to its responsibility for seeing that this machinery is fully complied with by its members. Normal working was resumed on Tuesday last, and we understand that the N.U.R. will now reopen negotiations with the company.

Accidents on Regular Air and Railway Passenger Services

DURING the present year much concern has been caused by four fatal accidents to British commercial aircraft, involving the deaths of 29 passengers. Great interest consequently attaches to a statement compiled by the Ministry of Civil Aviation which gives particulars of accidents on regular air services flown by United Kingdom operators between 1925 and September 30, 1946. In weighing the risk of accident by any form of transport, it is a prudent course always to take a period of five years. We have, therefore, compared the air figures for the years 1941-1945 with the record of the main-line railway companies for the same period, as furnished by Sir Alan Mount, Chief Inspecting Officer of Railways, in his annual report for 1945. The result of the comparison is set out in tabular form below.

FATALITIES TO PASSENGERS ON AIR AND TRAIN SERVICES, 1941-1945

	Air	Train
Passengers carried	748,100	6,293,300,000
Passengers killed	78	138
Passengers carried for one fatality	9,590	45,600,000
Aircraft and passenger train-mileage	77,603,000	1,027,112,000
Passengers killed per million miles operated	1	0.13
	(approximately)	
Passenger-mileage	748,918,000	155,598,000,000
Passengers killed per 100 million passenger-miles	10.4	0.009

The railway figures include season-ticket holders and the passenger-mileage has been estimated on the basis of an average journey of 25 miles. The average length of transit by air was just over 1,000 miles, but the railways carried 8,400 people for every flying passenger. Though train casualties were regrettably high during the wartime years, save in 1943 when only 4 passengers were killed in train accidents, and in 1944 when 12 persons lost their lives, the liability of one in 45,600,000 is slight compared with the air risk of one in 9,590. The contrast between 0.13 of a railway passenger killed for every million train-miles operated and 1 air traveller lost for each million aircraft-miles flown may not appear so unfavourable to air transport. It should be borne in mind, however, that the average train carried 151 people, whereas the average aircraft load was 9 passengers. The loss of 10.4 air travellers for every 100 million passenger-miles flown is lamentable. A similar rate of mortality on our railways would represent over 3,200 fatalities to passengers every year.

A disquieting feature of the situation is a falling off in the safety of air travel during the first nine months of 1946, one passenger in 9,300 becoming the victim of a fatal accident. Strenuous efforts are, no doubt, being made to improve the standard of efficiency and safety of our air services. On

their part, the railways are doing everything in their power to overtake the heavy arrears of maintenance and renewal of permanent way and rolling stock, which at present are a hindrance to good operating. Even as things are, the accident statistics show that a railway train is a remarkably safe place.

"Nationalisation on the Cheap"

IN its issue of November 23, *The Economist* publishes an article under the above title. Its viewpoint is very similar to that in the editorial entitled "Railway 'Confiscation' Terms" in the last week's issue of *The Railway Gazette*. Below we publish some extracts from *The Economist's* article:—

The inclusion of London Transport is something of a surprise; the absence of any reference to road transport may mean one of two things—either that the Government has not yet worked out the principles on which compensation should be paid (which would not be surprising) or that road services form that part of the inland transport complex which, in the words of the King's Speech, is to be brought under national control, as distinct from national ownership...

The terms are very surprising indeed, for the Government has departed from its own precedents and from the doctrines of Transport House. Instead of the principle of net maintainable revenue which was followed in the nationalisation of coal, and is being applied in the case of Cable & Wireless, the Transport Bill will propose that the compensation for these railway, canal, and London Transport undertakings shall be based on the market value of their securities on the Stock Exchange on specified dates...

Total compensation exceeds issued capital in two cases—Great Western and London Transport—almost reaches it in the case of the Southern, is 18½ per cent. less for L.M.S.R., and 35 per cent. less for L.N.E.R. . . .

It is doubtful if a more mixed set of factors ever controlled a collection of Stock Exchange prices than those which determined the levels of railway stocks during the six days which have been chosen. Cheaper money was boosting the prices of the covered prior charges; the marginal stocks were protected in varying degree by the edge of the umbrella of the Government rental, with the assurance that it would continue for at least another year; and over the whole market lay the clear threat of nationalisation. . . .

To impute the value of a total stock by reference to that part which happens to be dealt in during a particular period of time may strike a just basis for compensation; but if it does so, it will be largely by accident. . . .

To adopt the market value compensation basis, therefore, is to take a serious risk that proper compensation will not be paid for the transport undertakings as a whole. . . .

But to express doubts about this basis is not to say that compensation for the railway based on their expectations of net maintainable revenue in the absence of nationalisation would necessarily give higher payment to stockholders. . . .

It is true that, if the present owners of the railways were to be assured, by Government guarantee, anything like their present incomes, they would gain enormously on the capital value of their holdings. Since railway stocks are, on the average, valued on a higher yield-basis than gilt-edged securities, the dilemma is inevitable. Obviously, railway stockholders are not entitled to claim their present income in perpetuity backed by a Government guarantee. But either the stockholders are treated fairly in respect of income, in which case they get large capital bonuses, or else they are treated fairly in respect of capital, in which case they suffer severely in their income. But the dilemma is of Mr. Dalton's own creating: it springs directly from ever cheaper money and a controlled capital market. Nor is there any escape from the dilemma by saying that stockholders can sell their compensation stock and re-invest the proceeds at a yield more akin to what they have been used to on the railways. What, in today's conditions, can they buy—especially the very many of them who are bound by the restrictions of the Trustee Acts?

In these circumstances, it is not fair to base compensation on capital values alone, as the Government is proposing. The amount of capital stock which the new Transport Board has to service is, within broad limits, not very material. What matters is the annual revenue cost of meeting that service.

and on this the Government is imposing a very hard bargain indeed. It offers to the stockholders of the four railways and London Transport an annual income of the order of £25½ million (assuming that compensation stock carries 2½ per cent.) compared with the present Government rental of £43 million and with actual net revenues for the poor year 1938 of approximately £33½ million. It is a calculation which takes no account of the change in the value of money, nor of the plain fact that railway stocks are held by a large number of small investors, trustees, and charitable institutions. It is nationalisation on the cheap—and it comes very close to legalised expropriation of income rights which the transport industry of this country, under any form in future, should be capable of earning. . .

It may be too late to persuade the Government to alter the method, for it is too easy and too cheap. But it will forever rankle in the mind of the railway stockholder that he has been victimised.

L.N.E.R. Staff Selection & Training—2

BEFORE the war, the L.N.E.R. selected young men both from within and from outside the service, and in approximately equal numbers, as traffic apprentices, and trained them for responsible posts in the traffic departments. This scheme was necessarily suspended during the war years, and the problems connected with its resumption are worthy of note. Foremost was the difficulty as to ages of recruitment. The recruitment ages formerly were from 18 to 25 for recruits from outside the service and from 20 to 24 years for men from the company's own staff. Clearly, it would not have been fair to those who, by reason of the war, have been deprived of the opportunity of becoming candidates to adhere to those limits, and with the object of making good these lost opportunities, the company decided that under the resumed scheme, recruitment for the time being should be restricted to men from 25 to 30 years of age. Traffic apprentices recruited under the present arrangement at these higher ages will be paid throughout the training period at a standard salary figure (plus the war advance) in appropriate relation to the clerical scales, but sufficiently high to be attractive to candidates of the right quality.

As the recruits under this arrangement would be older than was customary under the pre-war scheme, would be more mature, and, possibly, would have held in the Forces posts of trust and responsibility, it was considered reasonable to assume that the selected candidates would prove adaptable and capable of readily absorbing instruction. It was decided, therefore, to reduce the period of training from the normal three years to eighteen months, at the end of which time the traffic apprentice would be expected to make his own way forward in competition with the rest of the staff by applying for posts which, in accordance with the company's established practice, are advertised through the vacancy lists.

It has long been the company's practice to select traffic apprentices from the staff by competitive examination, followed by interview by a committee of the company's officers. This procedure it was also decided to revive. It would, however, not be possible, as formerly, to base the examination on the company's educational programme, but it was felt that an examination in the nature of a written general test, followed by interview, would be the best means of bridging the gap until the examinations, by reason of the resumption of the educational courses, once again can take on their normal railway characteristics. As was the established practice, the competitive examination will be set, marked, and conducted throughout independently by members of the academic staffs of the universities who are associated with the company in the educational scheme.

It will again be the objective, as it was pre-war, that provided a suitable standard is reached, equal numbers of candidates shall be accepted from within and from outside the service. Candidates from outside the service will be those from the schools and universities who have a good scholastic or academic record and are able to provide satisfactory testimonials from the school authorities or the University Appointments Boards, whilst candidates from other re-

cognised sources, such as the Government business-training scheme, can also be considered. Candidates from outside the service are selected by the Chief General Manager after interview by the Selection Committee, and the age limits and salary paid during training will be the same as for candidates recruited from within the service.

It is on this basis that the L.N.E.R. recently resumed its traffic apprenticeship scheme. The first competitive examination for members of the company's staff took place on June 27 and there was a gratifying large entry.

As regards candidates from outside the service, the Selection Committee has already begun its work, and the first batch of selected candidates have commenced their railway career. By the time the educational courses have been in operation again for two or three winters, it should be possible to revert to the pre-war practice and to base the competitive examination on the educational programme. Similarly, it will be desirable gradually to lower the age limits for candidates until they are back at the pre-war levels, though it may be necessary to make allowance for the compulsory military training which is likely to be applied.

Plans for the transition to normal already have been framed, and these take into account the need for ensuring that the scheme is available to those at the upper age limit who have not yet been released from the Forces, and those at the lower age levels who have not yet had the opportunity of being considered. The type of training which will be given by reason of the shortened training period will be more intense, but it will be facilitated by the requirement that traffic apprentices shall attend courses at both the operating and commercial schools and take advantage of the opportunities offered by the company's programme of educational classes and university courses. The practical side of training, which involves transfer from place to place to widen knowledge, will be arranged by the Divisional Training Committees. The various L.N.E.R. schemes for the special selection and training of staff in departments other than traffic, are now being remodelled on lines broadly similar to those adopted for the traffic apprenticeship scheme.

Normal Recruitment of Clerks

During the war, all appointments to the clerical staff have been made on a temporary basis, but the recruitment of clerks on a permanent basis has now been resumed. Normally, probationary clerks should not be more than 17 years of age, but, to bridge the gap in permanent appointments due to the war, the company is prepared for the time being to waive this age limit. The educational qualification required is that candidates for junior clerkships or male clerkships shall have passed an examination of university matriculation standard or have obtained the school certificate. In other cases, candidates must pass the company's written examination.

All candidates before admission to the service are interviewed by a committee of the company's officers, and permanent appointment is given after the successful completion of a probationary period of twelve months. The scales of pay are those set out in the agreement of August, 1945, between the Railway Executive Committee and the railway trade unions. Wages grade staff will also have the opportunity of sitting for the company's clerical entrance examination and thus qualifying for clerkships. Once he is a member of the clerical staff, any young man will have the opportunity of learning his business with a minimum of drudgery at one of the L.N.E.R. primary training schools where the elements of station work are taught. Moreover, he will be able to attend educational classes and thereby equip himself with railway knowledge in preparation for sitting the examination for a traffic apprenticeship.

The road from the bottom to the top of the L.N.E.R. service is thus open for the young man who desires to take it. It is a road which entails hard work, but the company has done what it can by careful planning of staff education to assist, and point out the way to success. The way has been trodden, not without profit, by many others in the past, and it is for the newcomer to the L.N.E.R. service to prove, by his keenness to work, that he can seize his opportunities, and that he will not fall short of the standard of those who have gone before.

(Concluded.)

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

New Third Class Coaches

Cambridge. November 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—On October 18 you published my comments on the new L.M.S.R. third class coaches, and in the next issue you printed a courteous reply from Mr. R. A. Riddles, showing that he was trying to reduce the deadweight hauled per passenger.

With 56 passengers, the figure is nearly 11 cwt. for the L.M.S.R. vehicle. The G.W.R. standard coach described in *The Railway Gazette* of November 15 seats 64 passengers on a tare weight of little over 10 cwt. a passenger. This is a distinct advance, provided that the increased length of the coach does not affect its running, especially on curves.

Yours faithfully,
EAST ANGLIAN

Southern Electrification Scheme—Right

"Dale View," 16, Box Ridge Avenue,
Purley, Surrey. November 17

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—One cannot but feel astonishment, at the least, at Mr. Richardson's letter in your issue of November 15. It is too easy to accuse the railway companies of so-called "last-minute" plans, but surely it must be remembered that these so-called "last-minute" plans are, in fact, no less than the logical continuation of pre-war plans well laid by a progressive company, tempered not only by post-war experience generally, but by the visit of a mission of experts to America. Your correspondent's statement that the Southern Railway electrification plans are open to criticism on economic grounds can hardly be reconciled with the known success of the company's previous electrification schemes and with the Southern board's estimate of a 6 per cent. return on the capital involved.

It is a fallacy to correlate the raising of fares with the outlay of fresh capital; in this case, the raising of fares surely has been carried out to cover existing increased operating and maintenance costs, and not to create capital for future developments and improvements.

Further, one cannot help noticing that your correspondent considers nationalisation of the railways as a *fait accompli*; that nationalisation should not be carried out is the earnest hope of many thousands connected directly or indirectly with the railways, who realise the impracticability and consequences of further fusion—when such enterprising schemes as that of the Southern's latest electrification project would go by the board for ever.

Yours faithfully,
R. A. SAVILL

Southern Electrification Scheme—Wrong

56, St. James' Avenue,
Sutton, Surrey. November 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Mr. Richardson has done well to draw attention in your November 15 issue to the fallacies in the Southern Railway's latest electrification proposals, and although it was hardly to be expected that you would support his views, I feel that you do him an injustice in describing his criticisms as "impetuous."

In common with many other people in this country, I have always been strongly opposed to any form of nationalisation, but the recent announcement by the Southern Railway has made me wonder whether there is not a great deal to be said for the nationalisation of the railways, after all. Although one can appreciate the desire of the Southern Railway authorities to avoid nationalisation, the present scheme savours, to my mind, far too much of an eleventh hour attempt to stave-off the evil day, without regard for the interests of the country as a whole.

It must be obvious, even to the chauvinistic Southern Railway authorities, that the time is coming when we must have a system of main-line electrification which is standard for the whole country. This cannot be achieved by extending the third rail still further, whilst the L.N.E.R. goes ahead with its plans for electrification on the overhead principle.

It is clear, therefore, that the question must be dealt with

promptly, or the British railways will be faced with a problem greater in magnitude and expense than that of the gauge question in Australia today. Consequently, the decision to spend £15,000,000 on extending, still further, the existing electrified lines is surely a retrograde step. Add to this the cost of conversion to another system at some time in the future, when the railways will, in all probability, have been nationalised, and it will be seen that the outlook for the taxpayer is not improved by this scheme. Presumably, if the railways had already been nationalised, the Southern Railway proposals would not have been entertained by the Government, seeing that they do nothing to facilitate the operation of the railway system of the country as a whole. Indeed, it is rather surprising that some question to this effect has not been raised in the House of Commons.

The bland assertion that the return on the capital involved in the project is estimated at 6 per cent. may be taken with the proverbial "pinch of salt"; moreover, it is pertinent to ask just how the Southern Railway is in a position to estimate what its earning capacity will be in 1955, having regard to existing labour difficulties and the persistent tendency for wages and costs to rise.

As Sir Eustace Missenden seems to have such a poor opinion of steam-hauled services, would it not be better to concentrate more on the employment of diesel-electric traction throughout the Southern Railway system, thereby avoiding the necessity for laying hundreds of miles of third rail, with all its attendant labour costs and difficulties?

Yours faithfully,
R. A. WHEELER

Oil-Burning Locomotives

Cambridge. November 17

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—It has been most interesting to peruse the excellent account of constructional features, methods of operating, and ancillary matters, detailed and illustrated in the article on oil burning by Mr. Thompson Fairless in your issue of November 15.

The writer would like to add his agreement with Mr. Fairless's exposition *in toto*, as, indeed, might be expected from the systems and practices described being those developed during the past few years on the Central Uruguay Railway. Although not mentioned in the article, the installations are applied to English pattern, plate-framed, "narrow"-firebox locomotives.

Yours, etc.,
P. C. DEWHURST

Indian Railway Facts and Figures

Hampstead. November 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Some of the Indian figures quoted on page 542 of your November 15 issue are strangely like our own statistics. The passenger-mile figures show the same trend from peace to a wartime inflated height. You were surprised to find that 40 per cent. of the total ton-mileage handled by the Indian railways was coal.

Our coal class ton-mileage used to be 50 per cent. of the total, and totalled 40 per cent. in 1945, despite the reduced output of coal. In any country with extensive coalfields, more transport is needed for coal than for grain. The United States loaded 9,690,000 wagons of coal and coke in 1944 as compared with 2,521,000 wagons of grain and grain products. In 1945 every country, including India, was clamouring for American grain, and the forwardings increased to 2,734,000, an all-time record, but still less than a third of the loadings of coal and coke.

You report that one Indian railway claims as a world record an average of 95 wagon-miles per wagon-day registered on its metre-gauge section in a recent month. That statistic is of little significance until we know the number of wagons involved and the net ton-miles moved daily by each wagon on an average.

During the war the U.S.A. railways brought the average daily mileage for all the serviceable wagons out of their stock of about 1,770,000 to over 50, and the average amount of work done daily by each wagon to over 1,000 net ton-miles. Their wonderful record must cover many fine performances over various sections of line, but separate details for individual railways are not available.

Yours faithfully,
STATISTICIAN

The Scrap Heap

NEXT WEEK'S RAILWAY CENTENARY

Ramsgate to Margate (3½ miles), South Eastern Railway, opened December 1, 1846.

The Bishop of Southwark, Dr. B. F. Simpson, stated recently that if the railways were nationalised the Ecclesiastical Commissioners would suffer a serious loss in dividends.—From "The Times."

Mr. Barnes has taken over the mantle of Mr. Dalton as the stockbrokers' friend. The City has its own private views about the railway nationalisation terms, but there can be no doubt that they have made, and will make, a lot of business for stockbrokers.—"Lex" in "The Financial Times."

SAFETY AND THE RAILWAYS

Last year 45 passengers were killed in train accidents and 41 of these lost their lives in the Bourne End disaster, the worst on British railways for many years. Railway accidents receive publicity because they are so rare and more spectacular than road accidents. The latter receive very little Press publicity because they are so common. Last year, 5,256 persons lost their lives on the roads, and some of the 133,000 who were injured are still dying after months of suffering.—From "The Pedestrians' Association Quarterly News Letter," October, 1946.

100 YEARS AGO

From THE RAILWAY TIMES, November 28, 1846

SMITHFIELD CLUB PRIZE CATTLE SHOW, 1846.—The Annual Exhibition of Prize Cattle, Seeds, Roots, Implements, &c., will take place on the 9th, 10th, 11th, and 12th of December, at the Horse Bazaar, King-street, Portman-square. A handsome permanent building, in place of the usual tent, was last year erected, and the Implement Galleries are, this year, made to extend over double the space formerly so occupied. Ladies are enabled to view this National Exhibition with perfect comfort. Open from Daylight till Nine in the Evening; Lighted up after Three in the Afternoon. Admittance, One Shilling.

A Foretaste of Things to Come?



Depressing effect of State control on a member of the Irish Transport Company's haulage staff

THE PORTAL HOUSE

This house, first of all, was called after the late Prime Minister, Mr. Churchill. When it was found it was not a popular house it was quite rightly called after me. That is as it should be. You do not want a great personality like the late Prime Minister to be tarnished. Everybody who saw the house saw that it was an ugly house. They forget, however, that it was very comfortable inside. I would much rather be comfortable inside and ugly outside.—Lord Portal, Chairman of the Great Western Railway Company, speaking in the House of Lords debate on housing on November 20.

STATE RAIL PLAN WILL COST UNION £5,000 A YEAR

The Associated Society of Locomotive Engineers & Firemen will lose nearly £5,000 a year income as a result of nationalisation of the railways. The union's accounts show that at the end of 1945 it had total assets of £996,840, of which £291,783 was represented by railway securities. Among these assets are the following:—

£50,000 of L.M.S.R. 4 per cent. Guaranteed stock
£50,000 of L.N.E.R. 4 per cent. First Guaranteed
£48,000 of L.M.S.R. 4 per cent. Preference
£42,000 of L.M.S.R. 4 per cent. Debentures
£30,000 of L.N.E.R. 4 per cent. Debentures

Each £100 of L.M.S.R. preference stock, for example, which now provides the union with £4 a year, will in future be represented by £85 8s. 9d. of Government stock, yielding an amount of only £2 2s. 9d. a year.

Other investments of the A.S.L.E.F. which may be hit by nationalisation include £130,000 of gas and electricity stock.

Another big union affected, though not to the same degree, is the Transport and General Workers Union, which holds an amount of £85,000 of railway stock and £20,000 of North Metropolitan Electric 4 per cent. preference.

The National Union of Railwaymen holds £3,650,000 of investments, but none of the money has been put in the railway business.—From "The Sunday Express."

WHY THEY GROW INSANE

Opening the Ministry's Arts Club show in London, the Minister of Health, Mr. Aneurin Bevan, said: "I believe Ministers start off quite sane, and grow slightly more and more insane, because they never have time to refresh their spirits and minds by doing other things."

He thought it wholesome for civil servants to have art as a diversion from pounding away at their desks. He wished he had time to take part in something like it.—From the "Evening Standard."

NAMED TRAINS IN AUSTRALIA—I

Name	Railway	Scheduled run
Newcastle	N.S.W.R.	... Sydney—Newcastle
Express	"	... Sydney—Newcastle
Northern Table-lands Express	"	... Singleton
Overland Express	V.R. : S.A.R.	... Melbourne—Adelaide
Riverina Express	N.S.W.R.	... Sydney—Albury
Silver City Comet	"	... Parkes—Broken Hill
South Coast	"	... Sydney—Nowra
Daylight Express	"	... Goulburn
Southern High-lands Express	"	... Melbourne
Spirit of Progress	N.S.W.R. : V.R.	... Melbourne
Sydney Limited...	"	... Perth—Kalgoorlie
Westland Express	W.A.R.	...

WHAT INVESTORS LOSE

The following table is reproduced from "The Sunday Times." It shows the effect of investing, in 1928, the sum of £5,000 in each of a selection of home railway stocks:—

Stock	1928 Nominal amount purchased	1928 Income	1945-46 Income	Effect of compensation in 2½ per cent. Govt. stock	Govt. stock Income
Great Western 4 per cent.	£ 6,170	247	247	7,910	198
Debs. 6,170					
5 per cent. Cons. Pref. 5,350	267	267	6,700	168	
Ordinary ... 5,910	295	295	3,500	87	
L.N.E.R. 4 per cent.	Debs. 6,670	266	266	7,900	197
4 per cent. 1st Pref. 8,130	325	325	4,740	118	
4 per cent. 2nd Pref. 10,200	407	357	2,980	75	
L.M.S.R. 4 per cent.	Debs. 6,330	253	253	7,500	187
4 per cent. Pref. 7,200	288	288	6,130	153	
Ordinary ... 7,970	279	319	2,350	59	
Southern 4 per cent.	Debs. 6,320	253	253	8,100	202
5 per cent. Pref. 5,720	286	286	7,110	178	
Def. Ord. ... 15,600	312	312	3,750	94	

TAILPIECE

(The French National Railways Company announced in Paris recently that a locomotive had disappeared)

Across in France the other day
A locomotive ran away.
We hope that soon, full steam ahead,
Twill be returning to the shed.

There's nothing novel, so they say,
In railway trucks that go astray,
And railway staffs know to their cost
That wagon loads are often lost.

These losses then they try to trace,
For in default there's claims to face.
And happily the efforts made
Are often with success repaid.

O may we never see the day
When British engines run away!
There's not a single one to spare
Because of wartime wear and tear.

W. E. N.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Adjudication on Union Claim

Adjudication of the dispute between the Railway Board and the All-India Railwaymen's Federation has begun before Mr. Justice Rajadhyaksha. The federation, represented by Mr. R. A. Khedgikar and Mr. M. A. Khan, has asked for a 42-hour week for all employees, one weekly holiday, all bank holidays with pay, 30 days' privilege leave, three weeks' casual leave, full sick pay for the entire period of sickness contracted on duty, overtime pay for line staff, and 25 per cent. leave reserve.

South Indian Railway Strike

The strike which began on the South Indian Railway in August continued for eight weeks. More than 15,000 railwaymen were involved. Passenger trains, both

followed by renewed activity on an unprecedented scale. From October 30 onwards, attack followed attack over a wide-spread area, and at times breakdown staff were dealing with three or more major derailments at the same time. On November 1, the night after the bomb explosion at Jerusalem Station, reported in *The Railway Gazette* of November 8, the engine of goods No. 56 was derailed on the main line near Benyamina Station by a bomb in the track. On the night of November 3, No. 68 goods was blown up between Ras el Ein and Qalqilia. The engine overturned and came to rest on its side 23 ft. from the track. Seven bogie box wagons immediately behind the engine were badly damaged. The driver and fireman were injured. The next night, November 4, No. 251 goods on the Jaffa-Jerusalem line

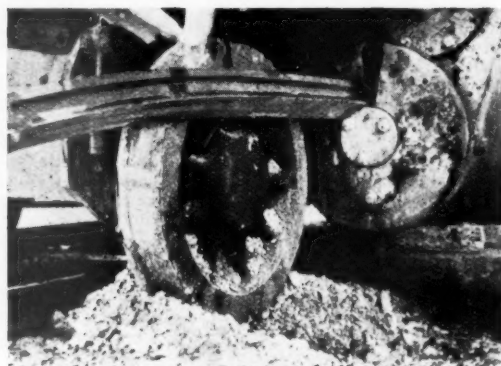
Daylight working, however, while diminishing considerably the risks involved, did not eliminate attacks on the railway. Within 24 hr. of the abandonment of night working, several stretches of track were found to be heavily mined, and valuable time was lost in removing the danger. On November 7, within an hour of daylight traffic beginning to move, a troop train was derailed by a mine between Rehovot and Lydda in Southern Palestine. Three coaches were derailed and several troops suffered minor injuries and shock. Damage was confined to the permanent way. The next day further mines were discovered and several trains had narrow escapes.

Station wrecking was resumed on November 10, when Ras el Ein Station, which is the rail terminal in a through road-rail service to and from Tel Aviv and Petah Tiqva, was mined and completely demolished. The technique followed was much the same as that adopted in the outrage on Jerusalem Station, and again a police officer lost his life in an endeavour

Permanent Way Mined in Palestine



Locomotive derailed by a mine on the track near Tel Aviv on November 5



Cylinder of the locomotive pierced by a rail dislodged by the explosion

on broad and metre gauge sections, were suspended, tear gas was used at Madura to disperse demonstrations, and curfew was imposed in the Trichinopoly area. Clashes occurred from time to time between police and strikers, with casualties to both sides. Amongst those injured was Mr. K. A. Nambiar, M.L.A., General Secretary of the Labour Union. Mr. Asaf Ali, Member for Transport in the Central Government, promised the strikers due redress of all legitimate grievances, but advised them to return to work. This they did in September, and it says much for the efficiency of the S.I.R. that conditions were soon normal.

PALESTINE

Continued Attacks on Railway

Since the attacks on Haifa East Station and the derailment of an oil train, reported in *The Railway Gazette* of October 18, terrorist activity against the railway has been intensified. On October 22, two engines and a van proceeding from Jerusalem to Lydda exploded a mine shortly after leaving Jerusalem. Both engines and the van were derailed, but remained upright. The accident occurred on an embankment, and only good fortune saved the train from plunging into the adjacent wadi.

A quiet week ensued, only to be

exploded a mine in section, but escaped without damage.

On the night of November 5, a Kitson engine exploded a mine shortly after leaving Tel Aviv Station. The engine derailed badly, but remained upright, and the crew escaped with minor injuries only. A peculiar feature of this accident was the penetration of a cylinder by a dislodged rail. The same night, oil train No. 67 was attacked between Qalqilia and Ras el Ein and set on fire. The track was blown up ahead of the train, which was fired on with tracer bullets by the saboteurs when it pulled up. Two 30-ton tanks loaded with benzine and kerosene were completely burned out, and others were seriously damaged.

Night Running Abandoned

After these incidents night working had to be abandoned, and a skeleton service was introduced, restricted to daylight hours. The Haifa-Cairo train and that from Cairo to Haifa, which normally provide connection between the two cities by an overnight journey, were retimed so as to travel through Palestine in daylight. This restriction in the service on the eve of the citrus season, when some 220 wagons of oranges require to be moved to Haifa Port daily, was a great disappointment both to the industry and the railway.

to remove the explosives from the building. The morning of November 11 brought further sabotage to the permanent way, several rail lengths of track being blown out near Qalqilia.

[It was reported from Palestine on November 22 that the military authorities had allocated some 15,000 troops to patrolling the railway.—Ed., R.G.]

HUNGARY

Reviving Passenger Traffic

Passenger traffic has shown a notable revival since the end of hostilities. Whereas the daily passenger train-mileage totalled only 3,100 miles in April, 1945, the daily average had risen to 13,040 miles a year later. During the same period, the average overall speed of passenger trains increased from 12½ m.p.h. to 31 m.p.h. Fast trains on the electrified Budapest—Győr—Hegyeshalom main line (for Vienna), a distance of 121·8 route-miles, are timed at 43½ m.p.h. The favourable conditions on this line enabled the "Arlberg Express" to be extended from Vienna, its former temporary terminus, as far as Budapest as from August 1. A temporary suspension of running to Budapest was necessitated later by the coal situation in Austria, as reported in *The Railway Gazette* of November 22.

Southern Railway Colour-Light Signalling

Replacement of semaphores between London and Coulsdon will provide colour-lights throughout the Brighton main line

THE Southern Railway announced last week that the board had approved plans involving an expenditure of approximately £1,200,000 on the extension of multiple-aspect colour-light signalling to cover the whole of the London and Brighton main line. The scheme will be carried out in four stages, taking five years to complete, and will include replacement of 32 manually-operated signal boxes by 11 which will be power-worked. An annual saving of nearly £20,000 in expenditure will result.

The greater part of the route from

London to Brighton is equipped already with colour-light signalling, but on the suburban sections from Battersea Park and New Cross Gate to Coulsdon North semaphore signalling is still in use. It is on these inner London sections that the latest type of colour-light signalling is to be installed. The effect of this installation will be particularly valuable in foggy or misty weather. During fog 70 per cent, or more of the normal train service can be guaranteed, instead of about 40 per cent. on these sections today.

This modernisation also will provide

much less onerous working conditions for the staff in the new power-worked signal boxes by reduction of physical effort. A greater number of signal sections will be introduced, increasing track capacity. Intervals between trains on certain sections will be reduced from 3 min., as now, to 2 min., and a greater frequency of service will be possible.

The Southern Railway already has the largest mileage of track controlled by colour-light signals in the country, 405 track-miles being so equipped. The new additions provide for a further 98 track-miles, including many complicated junctions.

The Zurich Oberland Lines

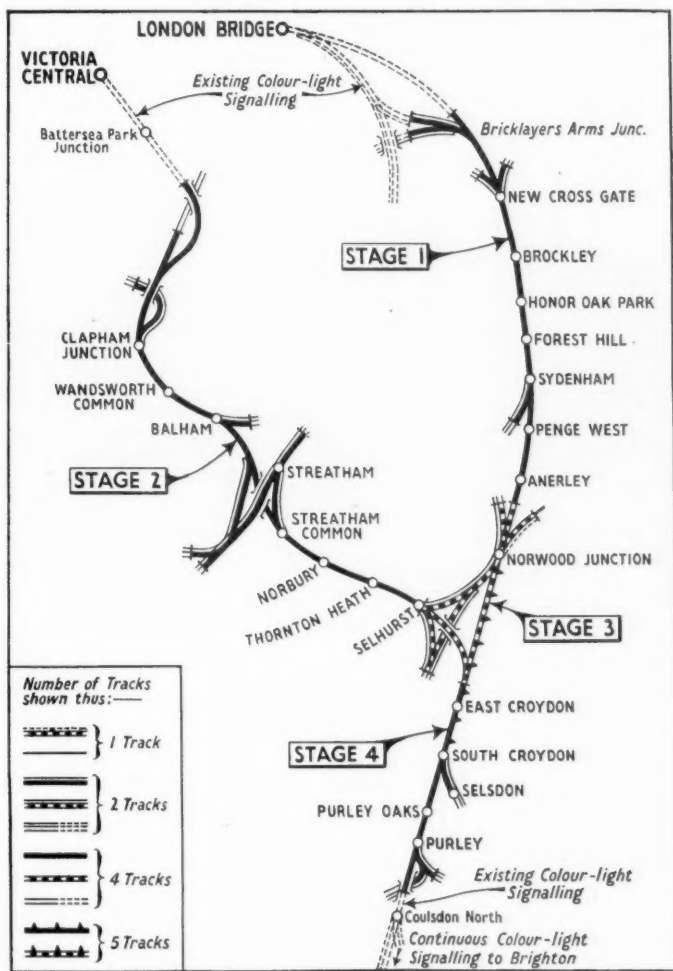
AN interesting example of the processes rendered necessary by the Swiss Constitution for dealing with particular transport problems is given in an article by Herr F. Hess in *Schweizerisches Archiv für Verkehrswissenschaft*, the new quarterly issued under the auspices of the management of the Swiss Federal Railways. In the area known as the Zurich Oberland, there were three secondary lines, or light railways—the standard-gauge Uerikon-Bauma line, and the narrow-gauge Uster-Oetwil and Wetzikon-Meilen lines. All three had been in so serious a financial position that in 1938 the Zurich Cantonal Government appointed the Manager of the Frauenfeld-Wil Railway, Herr H. Hürli-mann, to investigate the matter, and he recommended that all three lines be abandoned and replaced by road motor services.

The report was submitted to the various authorities interested, and to the managements of the light railways. Suggestions made by them were answered by the reporter, who also investigated the advisability of adopting trolleybus working and the possibility of reorganising the standard-gauge line.

The canton thereupon sent the whole document to a committee of experts, which included representatives of the Federal Railways, motor undertakings, and local authorities, and held sittings lasting until 1943. This committee's report was substantially a confirmation of the original investigator's views, but recommended that, in view of contemplated housing developments, the line from Hinwil through Bäretswil to Bauma, part of the Uerikon Railway route, should be made part of the Federal lines and electrified.

The results of the committee's deliberations were summarised in a report issued by the canton. This was followed in 1944 by a conference of officials of various undertakings, whose report, issued in 1945, once more supported the original plan in essentials, but proposed modifications of the road service routes. The Committee of the Cantonal Parliament approved, and the whole assembly accepted the scheme. Under Swiss law it went to referendum in the canton, and was confirmed, after which it became a Federal matter, in view of the participation of the railway and postal departments.

The scheme finally arrived at, agreed with Herr Hürli-mann's ideas, save for a few details such as timetables and fares, and the decision to maintain as long as necessary parts of one route to serve some factory sidings. The Bauma line is to be electrified under Federal management beyond Bäretswil. This will bring economic advantages, and through running to Winterthur, when the connecting lines are all electrified, should be of strategic value also.

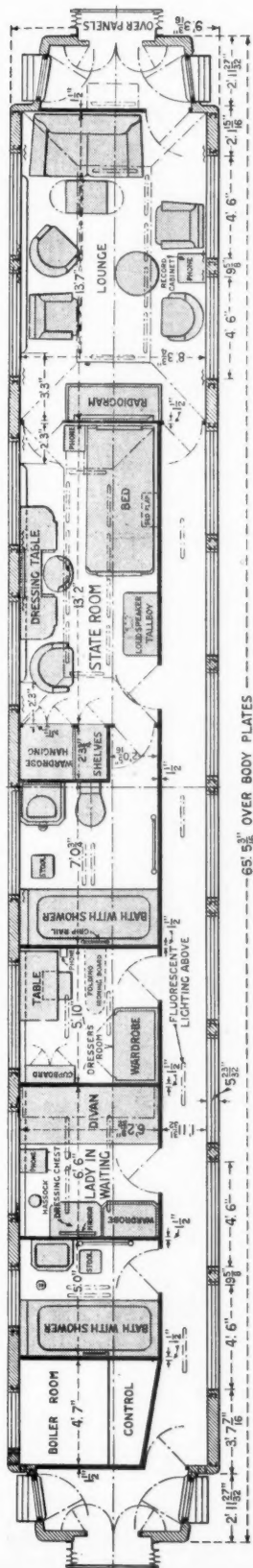


Lines between London and Coulsdon to be signalled with colour-lights

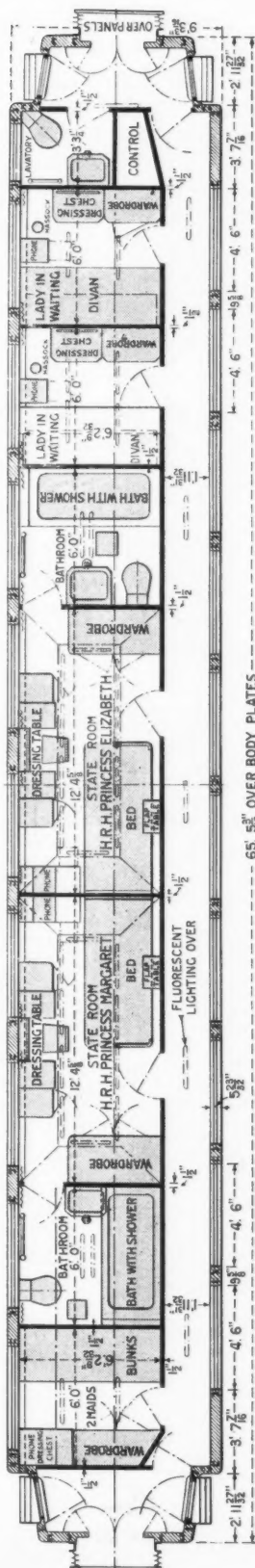
NEW TICKET MACHINE ON G.W.R.—The Great Western Railway is testing a new type of ticket-issuing machine. During December, passengers booking from Maidenhead Station to any station for which printed tickets are not held, will be issued with a small paper ticket, 3½ in. by 2½ in., instead of the usual blank card or larger paper ticket. The name of the destination station, railway, route, class of ticket, description and price, will be

written in by the booking clerk, and a copy will be recorded by an indelible ribbon on a moving band of paper in the ticket-issuing machine as in a cash register. If the test, which is to ascertain the efficiency, quickness, and economy in bookwork and accountancy, of this method as compared with the present one, proves satisfactory and the machine is adopted universally, clerks will have more time to deal with public enquiries.

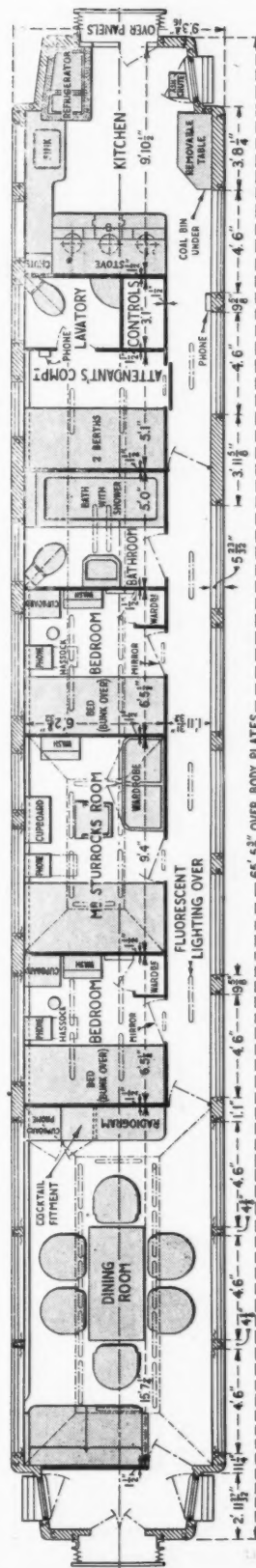
The Royal Train, South African Railways



The Queen's coach, with accommodation for the lady-in-waiting and the Queen's dresser, and also the Royal lounge



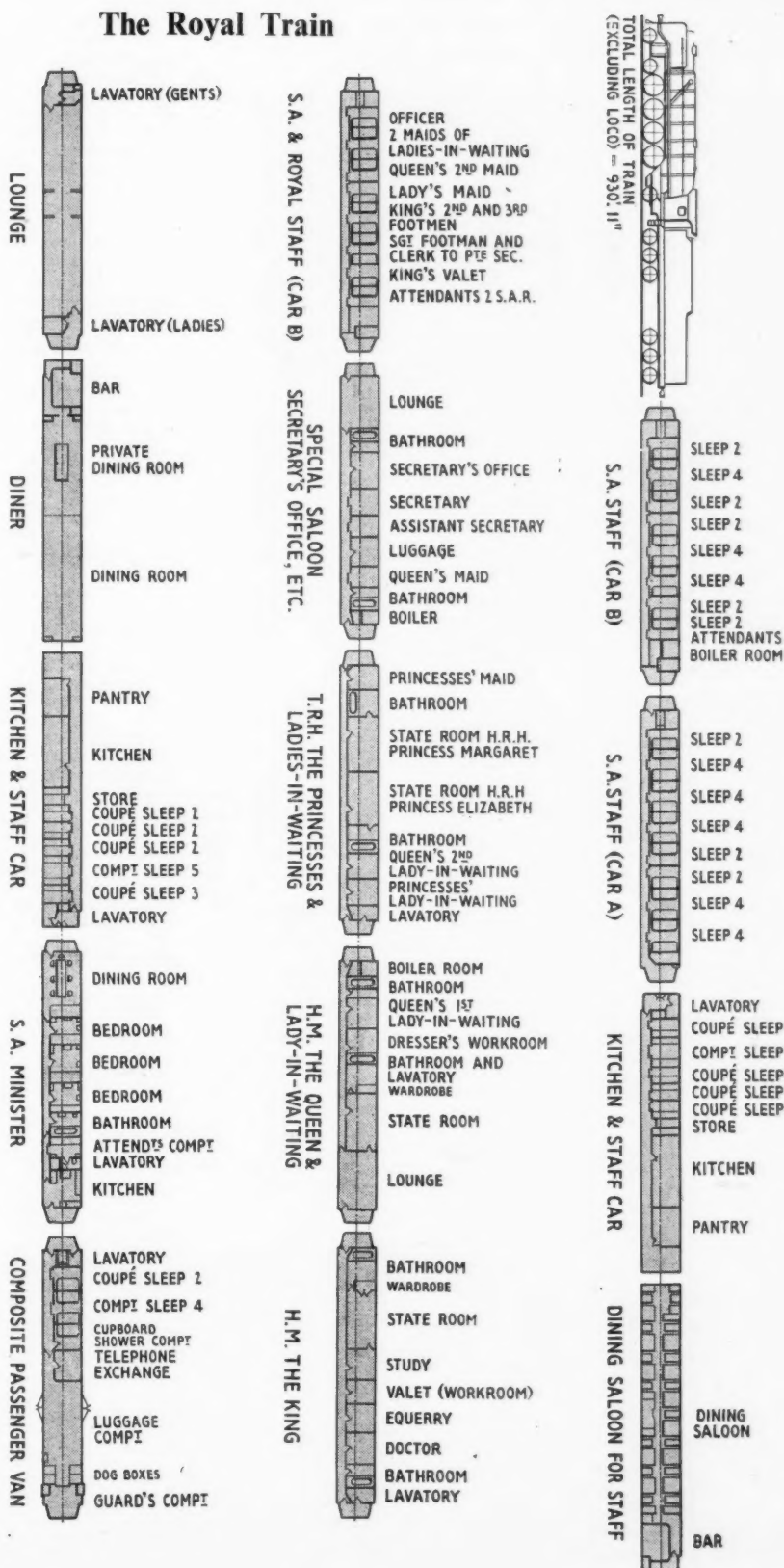
The Princesses' coach, showing the two staterooms and accommodation for two ladies-in-waiting and two maids



The coach for the use of Mr. F. C. Sturrock, South African Minister of Transport

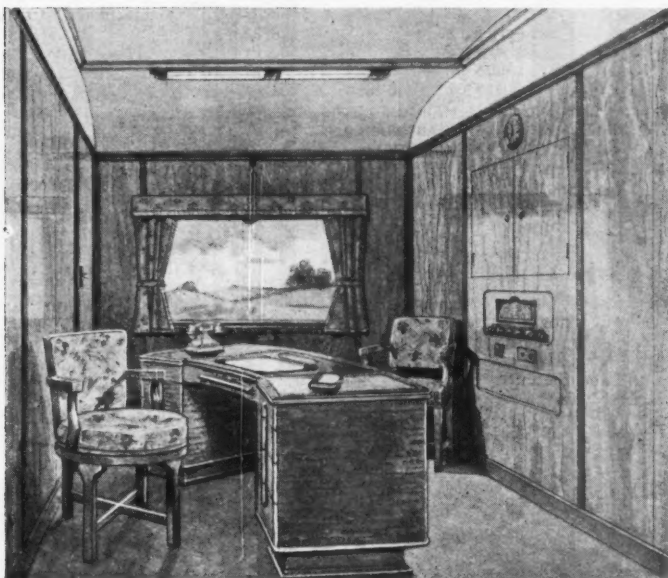
The Royal Train

Outline plan showing the formation of the Royal Train which will be adopted during the tour by the Royal Family in the Union early next year



The Royal Train, South African Railways

Eight fully air-conditioned all-steel coaches are built in record time by the Metropolitan-Cammell Carriage & Wagon Co. Ltd.



Artist's impression of the King's study

THE Royal Train which will be used for the forthcoming tour of the King and Queen and the Princesses through the Union of South Africa will consist of 14 coaches, of which eight are being supplied by the Metropolitan-Cammell Carriage & Wagon Co. Ltd. The remainder will comprise a lounge car, kitchen cars, diners, and baggage car drawn from existing South African "Blue Train" stock.

Essence of the Contract

The coaches are part of an order for 12 placed by the South African Railways & Harbours, and because of the arrangements for the Royal tour, it was necessary that the eight to be included in the Royal Train should be built in record time. Normally, some two years would have been considered a not unreasonable time for the work, but the order was not placed until the end of March last, and the

essence of the contract was that the coaches for the Royal Train should be delivered before the end of this year.

The coaches were on view at the Saltley works of the Metropolitan-Cammell Carriage & Wagon Co. Ltd. last week, when they were seen by a number of representatives of home and overseas railways, Government officials, and so forth.

Of the eight new coaches, five are saloons of special design to accommodate the King and Queen, the Princesses, the Royal Household Staff, and South African Government Ministers and Staff, and three are sleeping cars conforming to "Blue Train" standards. Of the four other coaches, two are to be set apart for the use of the Prime Minister, Field Marshal the Rt. Hon. J. C. Smuts.

On completion of the Royal tour the two coaches built for the King and Queen will be transferred to the "White Train,"

which is set aside for the exclusive use of the Governor-General of the Union of South Africa.

The coaches have been built to the general requirements of Dr. M. M. Loubser, Chief Mechanical Engineer of the South African Railways & Harbours Administration, under the general supervision of Mr. H. D. Ward Smith, O.B.E., Advisory Engineer in London, who is being assisted by Messrs. Williams and Speedie, specially seconded from South Africa.

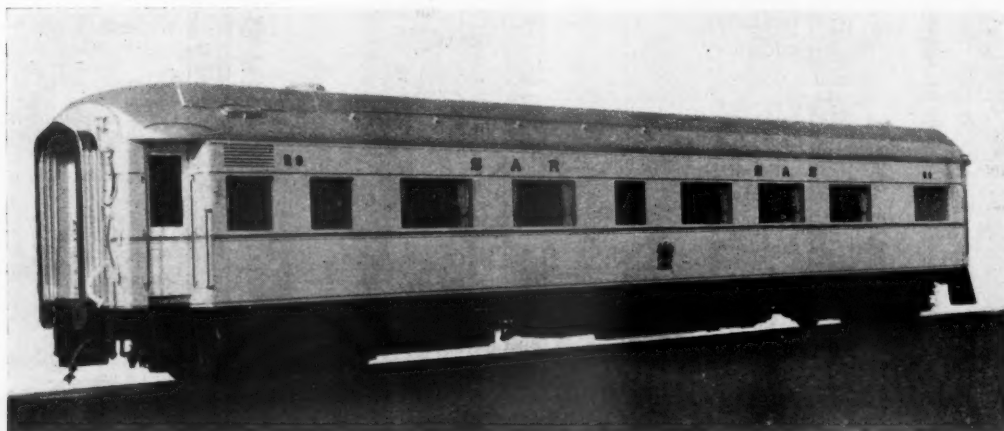
The passenger cars—other than the special saloons—follow the usual South African Railway standard practice, wherein the compartments provide a high degree of comfort for both day and night travel, and are easily convertible from comfortable seats to equally comfortable beds.

Construction of the Coaches

The saloons are of steel construction with the interior panelling of selected Empire timbers. The exteriors of all cars in the Royal Train are painted in ivory with gold lining. The dimensions of the coaches, which, it should be noted, are for a 3 ft. 6 in. gauge railway, are approximately 65 ft. long by 9 ft. 3 in. wide, the height above rail to roof of coach is 12 ft. 7½ in., and the corridors give free passageway from one end of the train to the other. Weights of each of the coaches were not available at the time of closing for press, but that of the King's coach is approximately 46 tons, and that of each of the others is not much less. The cars are fully air-conditioned by the Stone carrier system, and, irrespective of outside weather conditions, passengers within the train will have fresh and filtered air at a predetermined temperature evenly distributed throughout each coach. All windows, which are fitted with safety glass, are sealed permanently so that draughts, dust, and noise are excluded; the air in each vehicle is changed 15 times an hour.

A special design of rubber cushioning has been introduced between the superstructure and the bogies to absorb vibration, and the fact that the saloons are sealed from the outside air, limits outside noise and affords almost silent travel. The normal noise from the track has been reduced further by carefully designed insulation of floors and body sides.

The latest developments have been employed in the telecommunication system on the Royal and pilot trains. In addition to the provision of telephone communication in all compartments, loud



The King's coach

speakers have been installed to provide broadcast programmes which are received by a central receiving station in the baggage car and distributed to each compartment and the lounges. Inter-train radio communication facilities between the Royal and pilot trains are provided, as well as train to land station contact, and the lounges throughout the train have radiograms. The King's study will have a radio receiving set of wide range.

The bathrooms have full-length baths, and showers are provided; there will be ample supplies of hot and cold water throughout the train.

Bogies, Body, and Underframe Construction

The bogies are built to the design of the South African Railways Administration and are of riveted rolled-steel sections. They are of the equalising-beam type with helical springs over the beams and quadruple elliptic springs under the bolsters. A feature of the design is the provision to carry the generator gearbox on one bogie of each vehicle. A cantilever is built past the headstock and supports the gearbox, which is belt driven from the axle pulley. The gearbox is coupled to the generator via the a.c. motor by a cardan propeller shaft. Timken roller-bearing axleboxes are fitted to the journals.

The bodies and underframes are constructed of steel sections and plates, riveted or welded to give maximum strength, and the exterior of the body sides presents clean, unbroken lines due to the absence of mouldings and visible panel joints. The roof structure is not unlike the monitor-type roof; the centre portion is designed to carry the main air duct. The floors are of dovetailed galvanised steel sheeting, to which is cemented a layer of slab cork; this, in turn, is covered by 1-in. thick linoleum and carpet in the corridors and passenger compartments. The coverings in the bathrooms and lavatories are of indiarubber. The side entrance doors open into an enclosed vestibule and gangways allow of passage from car to car. A straight-through corridor of ample width runs between the two entrance vestibules.

The body sides are riveted to the underframes, the combined structure being of sufficient strength to obviate the use of trussing and to provide maximum space between the bogies to carry air-conditioning equipment and water tanks.

The King's Coach

The King's coach includes His Majesty's suite comprising a study and stateroom with adjoining bathroom having inter-leading door. There is a workroom for the King's valet, with ironing and pressing facilities and cupboards. A bedroom is provided for the equerry and one for the King's physician, and bathing and toilets have been arranged at the rear of the coach.

The stateroom walls are veneered with finely figured English chestnut with the skirting and mouldings in English walnut; the built-in wardrobe is finished similarly.

The furniture is in English walnut with handles in sycamore. The dressing chest has a decorative mirror, the tallboy is fitted with a loudspeaker unit connected to the central receiving set on the train. The bedside fitment has a drawer, cupboard, and space for books. In the wall alongside the bed is a small folding table. The bed has panelled ends to match the other furniture, with spring base and spring interior overlay. The floor is close

covered with a hand-made plain beige carpet, and the windows have art silk curtains and pelmets, net curtains, and silk spring roller blinds.

The study is panelled as the stateroom and has a writing table veneered with ucaltu and sycamore. The revolving writing chair and arm-chair are upholstered in light-coloured modern tapestry. Built into the next compartment and flush with the panelling of the study is a radio receiving set, and above it a cupboard and clock. The floor is covered with a hand-made carpet and the window has curtains and pelmet and a silk blind.

The bathroom has flush cream walls, and the toilet fittings are in light green. The hand-shower and other metal work are chromium plated.

The compartments for the doctor and equerry are panelled in West African betula and cherry mahogany, and the furniture, in mahogany, consists of a wardrobe, dressing chest, bedside fitment and divan bed. The floors have plain fawn carpets and the curtains are in wool repp with the bedspreads to match. The bathroom has light-blue sprayed walls, and the toilet fittings are of white porcelain with chromium metalwork.

The Queen's Coach

On this coach are the Queen's stateroom and bathroom, the Royal Family lounge, lady-in-waiting's compartment and bathroom, and dresser's room.

The stateroom panelling is veneered with quilted maple and walnut, and the furniture is in sycamore and walnut and comprises a wardrobe, pedestal dressing table, a cabinet fitted with a loud-speaker unit, bedside fitment, small easy chair, and dressing stool covered in blue silk, and the bed, which has panelled ends, is fitted with spring-interior mattresses.

The curtains and pelmets to the windows are in blue art silk with a bedspread to match. The windows are also provided with net curtains and cream blinds. The floor is close covered with an English hand-made carpet.

The Royal Family lounge is panelled in finely-figured English walnut, and the furniture, in walnut and sycamore, consists of a settee, easy chairs, and tub arm-chairs and small tables. A radiogram is fitted into a decorative cabinet, and a small cabinet is provided for records and a loud-speaker unit connected to the central receiving set. A hand-made carpet covers the floor, and the four windows are fitted with art silk curtains and decorative pelmet and silk blinds. The predominant colour of the room is a medium blue with silver and gold as secondary colourings.

The bathroom has cream walls and the toilet fittings are in light green with chromium metalwork.

The lady-in-waiting's compartment walls are in weathered sycamore with walnut mouldings; the furniture is in walnut.

The dresser's room has a wardrobe, cupboard, worktable, ironing board, and telephone.

The Princesses' Coach

Princess Elizabeth and Princess Margaret are accommodated in one coach, and each of the two suites comprises a stateroom with its adjoining bathroom. A bedroom is provided for each of two ladies-in-waiting, and a separate compartment for the maid.

The two staterooms are similarly treated; the walls are panelled in bird's eye maple, with light mahogany mouldings, and the furniture is in sycamore and mahogany. There are wardrobes and

dressing tables, and the bedside fitments contain loud-speaker units.

The beds are panelled and have spring-interior mattresses with bedspreads to match the powder-blue curtains. The floors are covered in hand-made carpets, and the curtains have shaped and trimmed pelmets. Each bathroom has cream walls and green porcelain fittings.

The two compartments for ladies-in-waiting are in African woods with furniture in cherry mahogany.

Royal Staff Coach

This coach accommodates the King's Private Secretary, the assistant secretary, and an office is provided for their use during the tour. The Queen's first maid also has a compartment in this car, and a spacious lounge is included for the staff. Two bathrooms are provided.

The lounge accommodating eight persons is treated with patapsco veneers with walnut mouldings, and has three types of chairs upholstered in wool moquette, a writing table, card table, and small tables, and a radiogram is fitted in the cabinet.

The Secretary's office is finished in avodire, and his bedroom in figured gabbon; the assistant secretary's bedroom is in Nigerian pear.

The furniture of these four compartments is in mahogany, with wool curtains to the windows and fawn carpets on the floors. A large baggage compartment with shelves and ironing table is provided.

Special Staff Coach

A car coach provided for the accommodation of special staff includes three bedrooms, a dining lounge, kitchen, bathroom, and an attendant's compartment. The dining room is panelled with Nigerian pearwood and mahogany, and is furnished with a table, radiogram, and sideboard, six tub chairs and a settee. A loud speaker unit is accommodated in a small cabinet and a telephone is provided.

The principal bedroom has panelling in figured chestnut and walnut, and the walnut furniture consists of a divan bed, bedside fitment with telephone, fitted wardrobe, cupboard with writing flap, washbasin, and an arm chair.

The two other bedrooms have walls in West African avodire and cherry mahogany, and the furnishings are in mahogany.

At the opposite end of the car from the dining room there is a small kitchen fitted with coal-burning stove, refrigerator, sink, table, and storage cupboards. The floor is covered with mosaic tiles, and the panelling is of plywood covered with stainless steel.

Adjacent to the kitchen are the attendants' compartment, which is finished in sapele mahogany, and a lavatory compartment sprayed blue, with toilet fittings of white porcelain.

The sleeping cars are of two types, "A" and "B," the latter of which has a coke-fired boiler for the provision of hot water to twin cars.

The interior finish of the compartments is carried out in veneered timbers which include sapele mahogany and zebrano, all french polished. The seats and seat backs are covered with blue hide. Below waist height the body side is covered with scratch-proof rexine suitably mounted to give an upholstered effect. Above waist height there is veneered panelling, and, on the cross-partition, one large alpac luggage rack will be provided in each compartment. In the full compartments there is a fixed washbasin with hot and cold water, covered by an occasional table

which is itself covered by a large folding table, which can be hinged out of the way when not required.

The type "A" sleeper has five large and three coupé compartments, and the "B" sleeper has three large and five coupé compartments. The seats are arranged to form the berths, and upper berths are provided to fold against the transverse partitions.

In the "A" sleeper there is a lavatory at one end with a bedding cupboard at the other. The "B" sleeper has a lavatory at one end and a shower and bedding cupboard at the other, where there is also an attendants' compartment.

These cars also have fluorescent lighting, and an improved method of the distribution of the conditioned air in the compartments.

The coach finishes applied to the vehicles had not only to provide colour for the

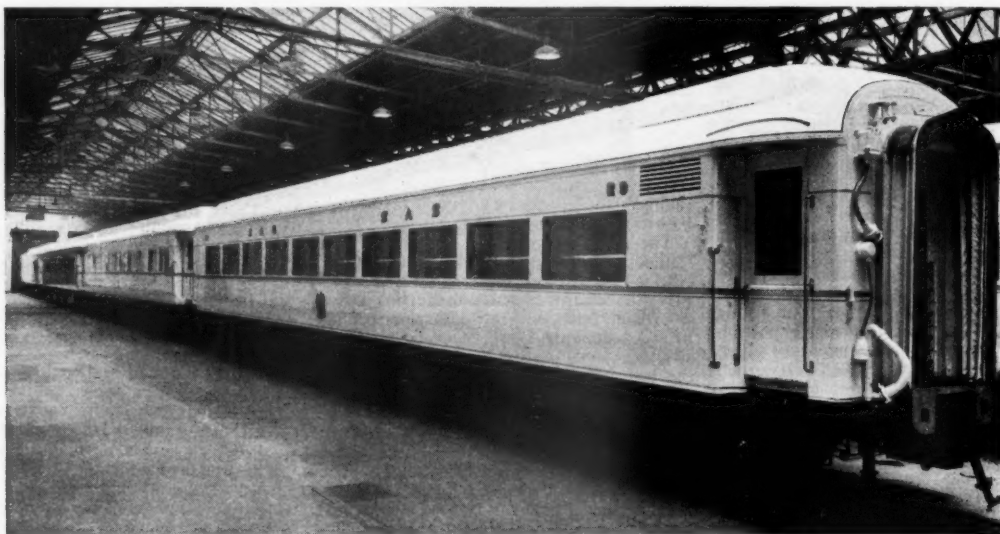
Metropolitan-Cammell works to inspect the coaches built for their use during the tour.

After the inspection the King expressed his thanks to those who had contributed to the construction of the train in record time, and in the absence in America of the High Commissioner for South Africa, Mr. Scallan presented to the King and Queen representatives of the South African Railways.

On November 21 and 22 the directors of the Metropolitan-Cammell Carriage & Wagon Co. Ltd. entertained a number of visitors who inspected the train. Special arrangements were made for their transport from London to the works, and Mr. A. J. Boyd, Managing Director of the company, was host to the parties which travelled from London and Birmingham in coaches attached to the 11.30 a.m. train from Euston, and thence to the Metropoli-

R. E. Fordham, Partner, Messrs. Freeman, Fox & Partners; Lt.-Colonel E. Graham, Mechanical Engineer (Maintenance), L.P.T.B.; Messrs. K. W. C. Grand, Assistant General Manager, G.W.R.; N. F. E. Grey, Secretary, Buenos Ayres Great Southern Railway; A. E. Hadley, C.B.E., Chairman, Rhodesia Railways; Brig.-General F. D. Hammond, C.B.E., D.S.O., Chairman, Central Uruguay Railway; Messrs. F. D. M. Harding, General Manager, Pullman Car Co. Ltd.; T. E. Harris, D.D.G. Ordnance Factories, Ministry of Supply; Randal J. Harvey, Consulting Engineer, New Zealand Government Railways; Rt. Hon. Lord Hawke, Director, Leopoldina Railway; Messrs. F. W. Hawksworth, Chief Mechanical Engineer, G.W.R.; A. Henderson, Partner, Messrs. Livesey & Henderson; R. B. Hoff, Purchasing Agent, L.P.T.B.; C. P. Hopkins, Assistant to General Manager, L.N.E.R.; A. C. Illston, Engineer Designs Dept., Crown Agents for the Colonies; J. A. Kay, *The Railway Gazette*.

Messrs. D. R. Lamb, *Modern Transport*; R. Leslie, Director, Central Argentine



The completed coaches for the Royal Train which were inspected on November 21 and 22

appearance of the train; it had to protect the metal under the severe conditions of exposure encountered in service in South Africa. In addition, consideration had to be given to the fact that the coaches were to be shipped to South Africa as deck cargo. For all exterior surfaces, Dulux coach finishes were used. All steel surfaces were first pre-treated with A.C.P. Deoxidine and zinc surfaces with A.C.P. Lithoform.

The new frequency modulated V.H.F. equipment developed by the G.E.C. is installed in the Royal Train as well as in the pilot train, and will enable the two trains to be in constant touch. It will be the first time that such equipment has been put to practical use in a British-built train.

The steel roof and side panels of the coaches are insulated against heat and sound transmission with sprayed Limpet asbestos, and the roofs also have been lined with heavy-grade fibre glass quilting as a further insulation against heat and cold, as well as to prevent condensation.

The floors are insulated against heat transmission and vibration by the use of lightweight patented cork flooring.

Official Visits

On November 19 the King and Queen, with Princess Elizabeth and Princess Margaret, made a private visit to the

Metropolitan-Cammell works at Saltley by motor coach.

The guests included representatives of home and overseas railway administrations, Government officials, consulting engineers and so forth. Among those who participated in the visits were:—

Messrs. N. Ablett, Chief Inspecting Engineer's Office, Egyptian Government; S. J. Adams, Chairman & Managing Director, Pullman Car Co. Ltd.; Colonel P. K. Benner, D.D.R.E.E., Ministry of Supply; Messrs. R. Bonar, Chief Mechanical Engineer, Egyptian State Railways; G. C. Brighton, Stores Superintendent, Central Argentine Railway; J. A. Calder, C.M.G., Crown Agent for the Colonies; A. C. F. Calladine, Assistant to Chief Operating Manager, L.M.S.R.; A. Campbell, Deputy Chief Engineer, Crown Agents for the Colonies; Sir Henry Chapman, C.B.E., Director, Rhodesia Railways; Messrs. C. M. Cock, Chief Electrical Engineer, Southern Railway; K. Cole, Stores Superintendent, Buenos Ayres & Pacific Railway; F. H. Colebrook, Purchasing Agent, L.N.E.R.; Colonel F. R. Collins, Late South African Railways; Messrs. J. D. Couper, C.B.E., Partner, Messrs. Livesey & Henderson; T. G. Creighton, Indian Railway Board; C. E. Critchley, Trade Commissioner for Australia; O. Chadwyck-Healey, *The Engineer*.

Messrs. C. E. Dee, Manager, Messrs. Livesey & Henderson; J. Dixon, *Engineering*; F. O. Ellis, Secretary, Great Western of Brazil Railway; R. E. Fitzgerald, Director & Secretary, Rhodesia Railways;

Railway; W. F. Lockwood, Manager, Robert Hunt & Company; Colonel W. F. Lumsden, D.S.O., Director, Dorada Railway; Messrs. L. Lynes, Technical Assistant (Carriages & Wagons), Southern Railway; A. B. Macleod, Stores Superintendent, Southern Railway; A. S. Matthews, Director, Central Argentine Railway; C. R. Mayo, Partner, Messrs. Fox & Mayo; Sir James Milne, K.C.V.O., C.S.I., General Manager, G.W.R.; Sir Alan Mount, C.B., C.B.E., Chief Inspecting Officer, Ministry of Transport; Messrs. Jacques Muntz, Chief Engineer, Cie. Internationale des Wagons-Lits et des Grands Express Européens; J. R. Naisby, Public Relations Officer, South African Railways; C. S. Naylor, Stores Department, Rhodesia Railways; Sir Charles Newton, Chief General Manager, L.N.E.R.; Messrs. J. J. C. Patterson, Consultant, Messrs. Rendel, Palmer & Tritton; S. Payne, Assistant Stores Superintendent, Buenos Ayres Great Southern Railway; A. E. Peters, Works Superintendent (Carriages & Wagons), L.M.S.R.

Messrs. R. A. Riddles, Vice-President, L.M.S.R.; T. W. Royle, C.V.O., Vice-President, L.M.S.R.; H. Rudgard, M.B.E., Superintendent of Motive Power, L.M.S.R.; A. L. Shepard, Sudan Government; H. A. Short, M.C., Assistant Traffic Manager, Southern Railway; Lt.-Colonel E. W. Slaughter, Managing Director and London Agent, Nizam's State Railway; Messrs. H. D. Ward Smith, Advisory Engineer, South African Railways; C. E. Spurgeon, Chief Inspecting Engineer, Egyptian State Railways; Sir William Stanier, Scientific Adviser, Ministry of Production;

Mr. J. B. G. Taylor, Benguela Railway; Viscount Trenchard, G.C.B., D.S.O., Director, Rhodesia Railways; Sir George W. Turner, Second Secretary, Ministry of Supply; Sir Bruce G. White, K.B.E., Messrs. Wolfe Barry & Partners; Messrs. G. M. Wilford, Office of the High Commissioner for South Africa; G. Windsor, Office of the High Commissioner for South Africa; Lt.-General F. G. Wrisberg, Controller of Supplies (Munitions), Ministry of Supply.

Principal Sub-Contractors

Below is a list of the main sub-contractors:—

Air-conditioning equipment and lighting:

J. Stone & Co. Ltd.

Interior panelling and furnishing: Waring & Gillow Limited.

Communication systems: (telephones) Automatic Telephone & Electric Co. Ltd.; (radio) General Electric Co. Ltd.; Marconi's Wireless & Telegraph Co. Ltd.; (radio gramophones) Decca Record Co. Ltd.; (electrical suppression) Belling & Lee Limited; (batteries) Chloride Electrical Storage Co. Ltd.

Interior panels: Saro Laminated Wood Products Limited; Flexo Plywood Industries Limited; Aeronautical & Panel Plywood Co. Ltd.

Ceiling panels: G. D. Peters & Co. Ltd.

Glass and mirrors: Pilkington Bros. Limited.

Insulation: J. W. Roberts Limited; Fibreglass Limited.

Blinds: G. D. Peters & Co. Ltd.; Laycock Engineering Co. Ltd.

Metallic fittings, washbasins, etc.: Jones & Foster Limited; Samuel Wilkes & Sons Ltd.; James Beresford & Son Ltd.; Beckett Laycock & Watkinson Limited; Gabriel & Co. Ltd.; John Levick Limited; Linley Engineering Co. Ltd.; Lightalloys Limited; Laycock Engineering Co. Ltd.; William Newman & Sons Ltd.; Mr. Wilfrid Overton; Roanoid Limited; Twyford's Limited; Worcester Brass Co. Ltd.; Yale & Towne Manufacturing Co. Ltd.; Edward Johns & Co. Ltd.; Thermos (1925) Limited.

Leather hides: Connolly Bros. (Curriers) Ltd.; W. & J. Richardson Limited.

Rexine: I.C.I. Limited (Leathercloth Division).

Paints, gold leaf and transfers: I.C.I. Limited (Paints Division); Geo. M. Whaley Limited; Tearne & Sons Limited.

Hot water boilers: Ideal Boilers & Radiators Limited.

Fire extinguishers: Merryweather & Sons Ltd.

Linoleum: Barry. Ostlere & Shepherd Limited.

Rubber springs: George Spencer Moulton & Co. Ltd.

Rubber flooring, pads, etc.: Ioco Limited; Sorbo Rubber Co. Ltd.; Dunlop Rubber Co. Ltd.

Roller bearing axleboxes: British Timken Limited.

Wheels and axles: Taylor Bros & Co. Ltd.

Vacuum brake apparatus: Westinghouse Brake & Signal Co. Ltd.

Steam heating apparatus: Laycock Engineering Co. Ltd.; Gresham & Craven Limited; British Steam Specialities Limited.

Steel springs and automatic couplers: English Steel Corporation Limited.

Steel and iron castings: Robert Hyde & Son Ltd.

Stainless steel sheets: Firth-Vickers Stainless Steels Limited; Richard Thomas & Baldwins Limited; Wallis & Co. (Long Eaton) Ltd.

Cooking stoves: Smith & Wellstood Limited.

Kitchen floor tiles: Richard Tiles Limited.

Bolts, nuts, screws, etc.: Guest Keen & Nettlefolds Limited; Chas. Richards & Sons Ltd.

Steel sections, plates and sheets: Patent Shaft & Axletree Co. Ltd.; Richard Thomas & Baldwins Limited; Fredk. Braby & Co. Ltd.; Smith & McLean Limited; Appleby-Frodingham Steel Co. Ltd.; Dorman Long & Co. Ltd.; Guest Keen Baldwins Iron & Steel Co. Ltd.; Round Oak Steel Works Limited; Shelton Iron, Steel & Coal Co. Ltd.; South Durham Steel & Iron Co. Ltd.



Office of the King's Secretary



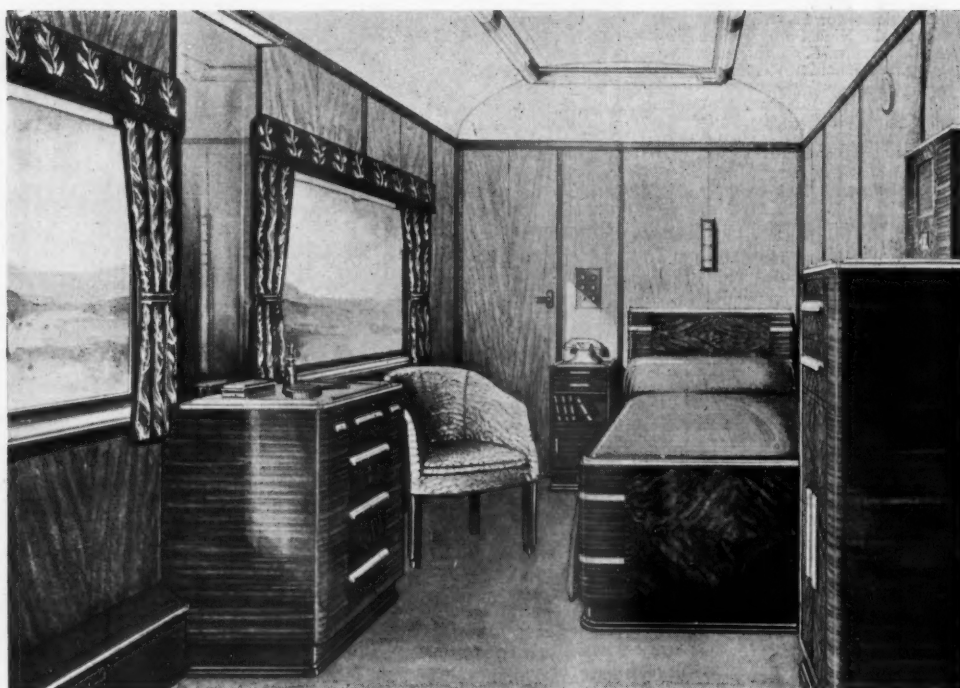
The King's bathroom



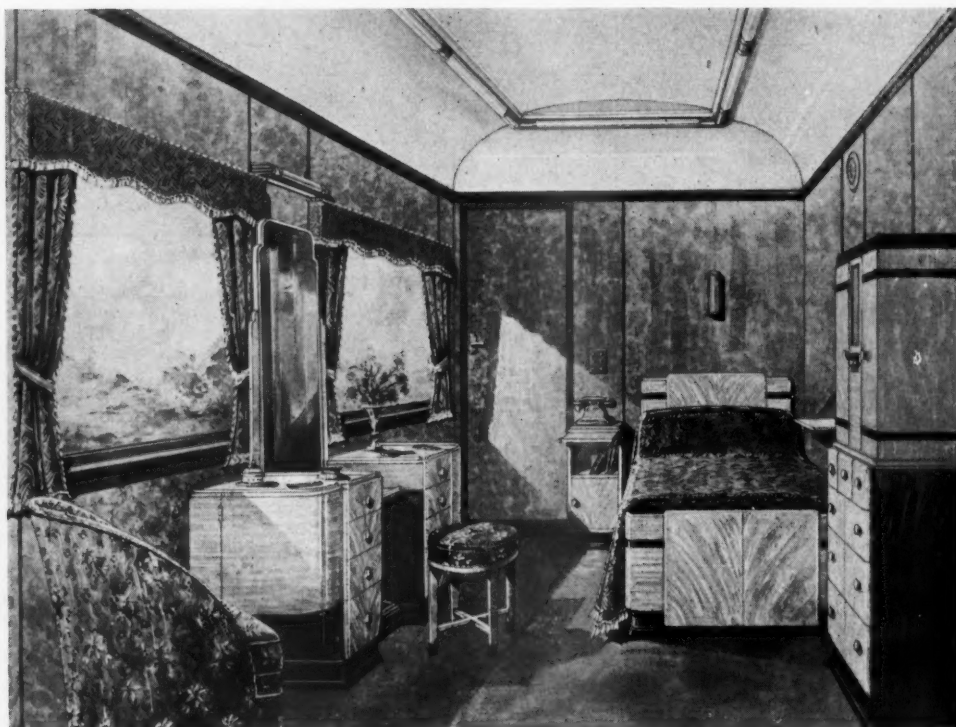
Compartment for Queen's lady-in-waiting

Engineering Library

The Royal Train, South African Railways

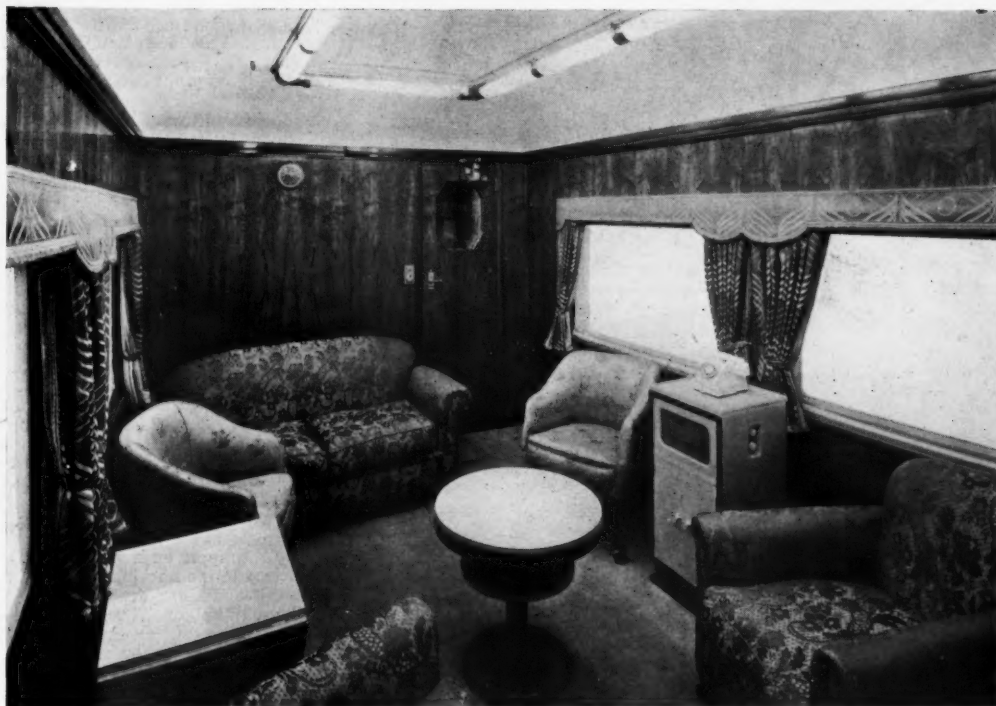


An artist's impression of the King's stateroom



An artist's impression of the Queen's stateroom

The Royal Train, South African Railways



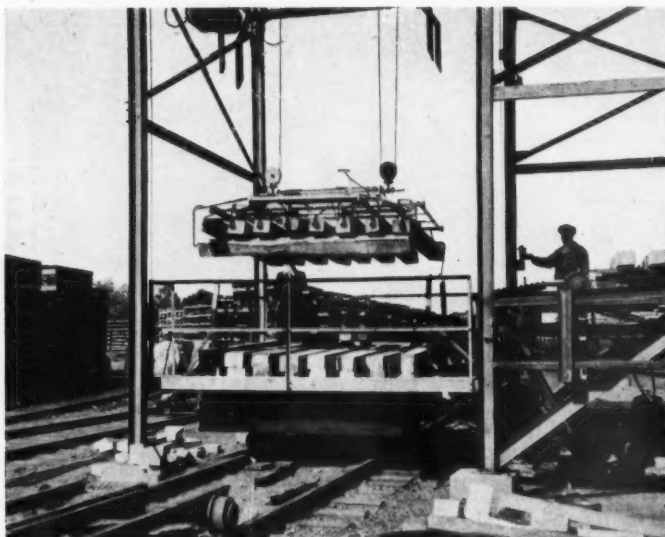
The Royal Family lounge which is incorporated in the Queen's coach



The staff lounge which forms part of the Royal staff coach

A Mechanical Sleeper-Handling Plant

A brief account of new methods for the mechanical handling of sleepers at Atlanta, Georgia



Lowering a complete layer of regularly spaced sleepers together with the stringer tie in place

AT the Atlanta, Georgia, yards of the Southern Wood Preserving Company, an ingenious new mechanical system of handling sleepers has been developed during the last two years. Described in a recent issue of our American contemporary, the *Railway Age*, it was stimulated largely by the acute shortage of labour during the war and the greatly increased cost of handling.

There are five principal units in the new method of operation: (1) An unloading machine; (2) a central stacking machine; (3) transfer cars; (4) a Ross sleeper carrier; and (5) an unloading device at the adzing and boring mill.

The unloading machine comprises an electrically-operated hoist mounted on a

horizontal steel boom which is pivoted to a steel support anchored to a concrete foundation beside the unloading track. The boom is revolved manually on roller bearings, and a suitable vertical adjustment compensates for varying heights of sleeper wagons and their loads. It can reach either end of box wagons and can be moved back and forth on roller bearings by an electric drive. A second electric motor, mounted on the boom, operates a hoisting drum. A steel cable running over a sheave at the opposite end of the boom is connected to a grappling device which comprises a series of hooks designed to pick up five or six sleepers at a time and release them automatically as they are deposited on the carrier portion of the cen-

tral stacking machine on the opposite side of the track.

In unloading, anchor chains hold the machine in position. An operator is stationed near the door of the box wagon, with an electric control box attached to a belt round his waist. After the grapple hooks have been applied to the ends of the sleepers, the operator starts the hoisting motor, and then retracts the boom, so that the load may be swung into a position for discharging, through the opposite door, laterally to the receiving platform of the central stacking machine. The boom is retracted, and swung into hoisting position, and the cycle is repeated.

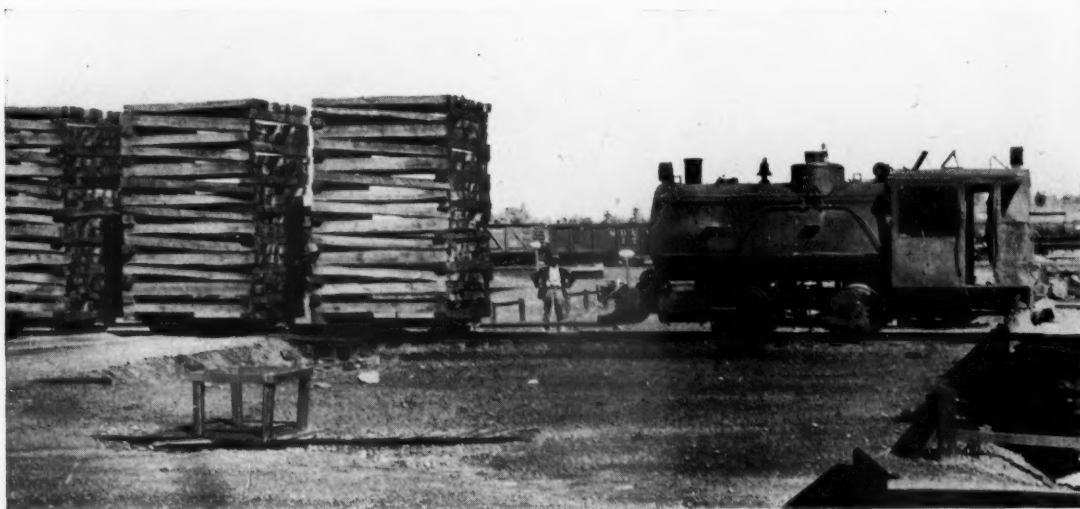
Method of Working

The receiving end of the stacking machine has a sloping platform with gravity rollers from which the sleepers progress laterally to a motor-driven chain conveyor equipped with appropriate guides and a motor-driven circular saw for trimming sleepers automatically to standard length. They pass on to a second chain conveyor which delivers them to a separating, or spacing, table where they are arranged in standard "eight-over-one" formation. An ingenious device provides for the automatic spacing of the sleepers acting as stringers in the stacks.

After a layer of eight sleepers, with their stringer sleeper, is assembled it is picked by a grapple on a mono-rail hoist, transferred to the stacking section of the equipment and there deposited on a flat steel "tram" wagon. The mono-rail hoist has a movable steel service platform, and, with guides engaging the four corner posts, it frames the stack area and may be lowered and raised as layers of sleepers are added.

When a standard stack, about 14 ft. high, is completed, the suspended platform is hoisted clear and the loaded steel tram is replaced by an empty one. Trains consisting of a number of loaded trams, each carrying 127 sleepers, are taken by a shunter to the drying section of the yard.

The sleepers then are picked up bodily by a four-wheeled Ross carrier, with a sturdy steel frame wide enough to straddle and hoist a stack of sleepers lying on a tram. The engine and operator's cabin are on top, and a chain drive actuates the two rear wheels. By a series of small portable aluminium bridges, the carrier



Plant locomotive shunting a train of standard ricks of sleepers 14 ft. high and each comprising a total of approximately 127 sleepers

readily can straddle a railway track and a stack of sleepers on a transfer tram, pick up the stack as a unit, back off the railway track, and transfer the stack to its final position in the seasoning yard.

Seasoned sleepers are loaded on transfer trams by reversing the operation of the Ross carrier, and trainloads of sleepers are taken to the adzing and boring mill, where another grapple and mono-rail hoist transfer the sleepers to a conveyor leading to the adzing and boring machine.

Stacking Speed

In March, 1946, this mechanical sleeper-handling system unloaded and stacked 45,905 "green" sleepers 8 ft. 6 in. long. The operating period was 228 hr., so that the hourly average handled was 201 sleepers.

Seven labourers were employed; thus, the rate averaged 28.8 sleepers per man-hour. The timing includes shunting or changing box wagons and stacks at the unloader, as well as all delays.

In addition, the Ross carrier, with an additional two labourers, transferred 21,470 seasoned sleepers from the yard to transfer trams in 197 hr. The total number of sleepers handled is thus 67,375. In all, therefore, 114 sleepers were handled per man-hour during that month. The following rates were obtained:—

From box wagon to stacks:—

28.8 sleepers per man-hour = 3.47 man-hours per 100 sleepers.

From stacks to seasoning yard:—

114.0 sleepers per man-hour = 0.88 man-hours per 100 sleepers.

Total handling time = 3.47 + 0.88 = 4.35 man-hours per 100 sleepers. This

gives 23 sleepers per man-hour for unloading from box wagons, stacking, and placing in the seasoning yard.

In handling the sleepers from the yard to the adzing and boring mill, the time needed was:—

To transfer trams from seasoning yard:—

114 sleepers per man-hour = 0.88 man-hours per 100 sleepers.

From transfer trams to adzing and boring mill:—

250 sleepers per man-hour = 0.40 man-hours per 100 sleepers.

Total handling time = 0.88 + 0.40 = 1.28 man-hours per 100 sleepers.

This gives 78.1 sleepers per man-hour. Under the new system, an additional man is needed at the adzing and boring mill to operate the mono-rail hoist which carries the sleepers from the stacks to the conveyor.

The cost of electricity for the month in question was 1 dollar for 2,000 sleepers; the cost of petrol and lubricating oil for the Ross carrier was 1 dollar for 3,334 sleepers.

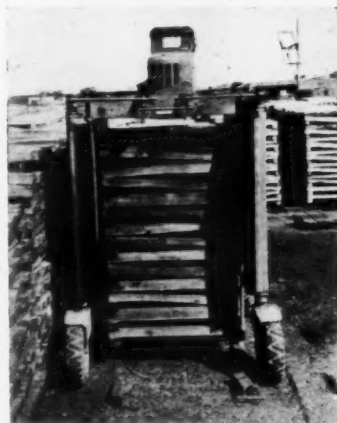
Increased Efficiency

The experience gained in several months' operation has shown the desirability of balloon tyres for the Ross carrier, by which its efficiency is very considerably increased.

Larger tyres, with about 50 per cent. greater ground area, it is expected, will allow the transportation of 700-1,000 sleepers an hour. Improved arrangement of the stacking yard, and better drainage—particularly in the alleys between stacks

of sleepers—also is likewise suggested. It will be noticed also that the figures given do not include shunting costs. During the period under observation, the locomotive spent about the same time in shunting as under the former system.

However, for the reason that the sleepers



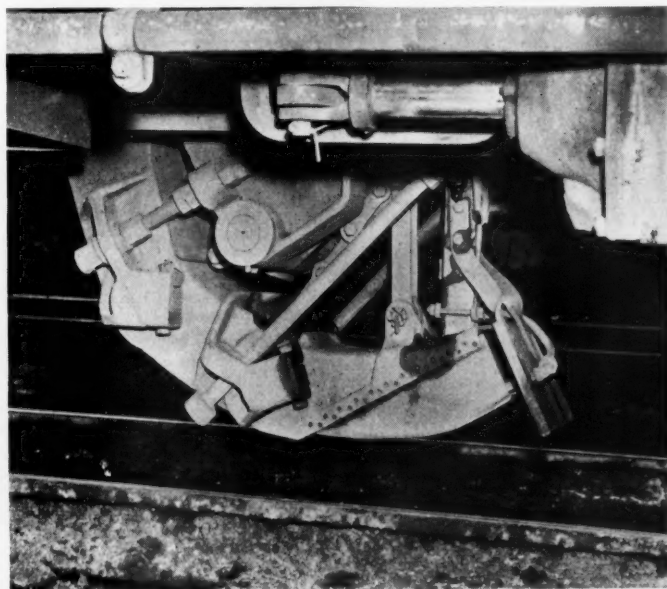
Ross carrier truck with a load of 127 sleepers in standard rick formation

are being shunted in trainloads of 700 or more at a time, these costs should compare favourably with the corresponding figures for the old method of manual handling and stacking.

Modern Water Troughs in the United States

IN view of the widespread use of water troughs in this country and their comparative rarity in America, some notes on the latest type installed in the U.S.A. may be of interest. As long ago as 1870, the

New York Central laid down its first troughs at Montrose, N.Y. In time, the troughs and pick-up apparatus were improved, but until recently it was necessary for trains to slow to about 35 m.p.h. to



The high-speed water scoop in position on a locomotive tender on the New York Central

pick up water. This handicap has been eliminated now, and New York Central trains today are capable of picking up 5,000 gal. while travelling at 80 m.p.h. in less than 20 sec. and within a scooping distance of 2,000 ft.

These figures have been recorded from tests proving that 2½ gal. of water are transferred to the tender in each lineal foot of scooping distance. To secure these results, the old riveted troughs have been replaced by new troughs consisting of ½-in. wrought-iron plates welded to 8-in. channels to give a cross-section 1 ft. 7 in. wide and 8 in. deep. According to our American contemporary, *Railway Engineering and Maintenance*, the scoop, which, as our illustration shows, is massive, is lowered into the trough by compressed air controlled by valves in the cab.

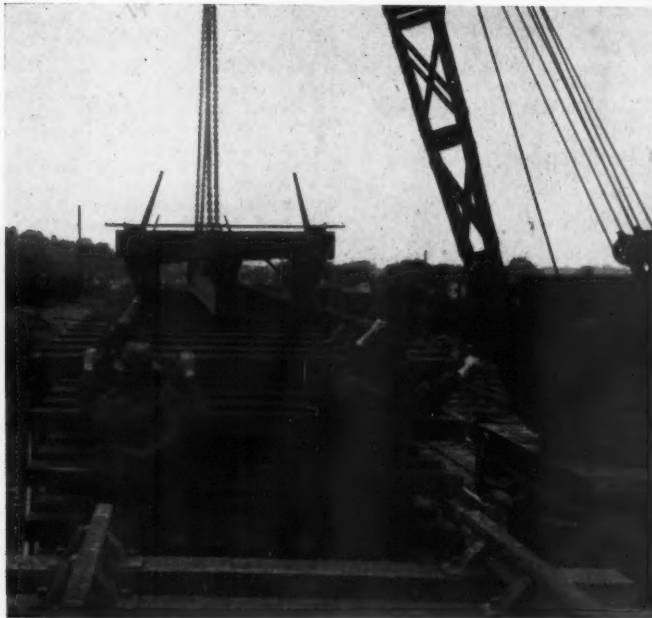
L.N.E.R. CARRIAGE-CLEANING EQUIPMENT.—The L.N.E.R. is to replace its vacuum carriage-cleaning machines by more modern apparatus at Stratford (Thornton Field), Sheffield (Victoria), New Basford, Leicester, and Wrexham. In addition, up-to-date portable or static electric cleaning machines are to be provided at sixteen other places, including Leeds, Bradford, Derby, Hertford, Cambridge, Colchester, Ipswich and Norwich. These replacements and new apparatus will cost nearly £31,000, and are additional to the programme already approved for providing up-to-date apparatus at other L.N.E.R. stations in North-East England and Scotland, including Hull, York, Darlington, Sunderland, Middlesbrough, Edinburgh, Dundee, and Glasgow.

Pre-Assembled Track Relaying, Southern Railway

(See editorial notes October 4 issue, pages 370 and 371)



Lifting out a 45-ft. length of old track from a difficult situation beneath an overbridge. The conductor rail has been supported on blocks clear of the sleeper ends



Loading a 60-ft. length of pre-assembled new track on a wagon at Redbridge Depot



Lowering a new 60-ft. section on to prepared ballast

RAILWAY NEWS SECTION

PERSONAL

Among those recently nominated for Sheriffs are Sir Felix Pole (Director, and lately Chairman, Associated Electrical Industries Limited; General Manager, Great Western Railway, 1921-29) (Berkshire); the Hon. G. C. Gibbs (Director, London & North Eastern Railway Company) (Hertfordshire); Mr. W. K. Whigham (Deputy-Chairman, London & North Eastern Railway Company) (Kent); Mr. W. M. Codrington (Director, Great Western Railway Company) (Rutland).

Mr. C. S. Moore, who recently was appointed Transportation Manager, Bengal-Nagpur Railway, joined that railway in

Mr. Theodore Charles Byrom, M.B.E., who, as recorded in our October 4 issue, has been appointed District Passenger Manager, Liverpool, L.M.S.R., was educated at Shrewsbury School, and entered the service of the London Underground Railways as a cadet. After training in the Engineering and Traffic Departments, he was subsequently appointed to train the G.P.O. staff on the construction of the Post Office (London) Automatic Railway in 1924. On entering the L.M.S.R. service in 1928 he was employed in the Office of the Vice-President, and was concerned in the consideration given by the company at that time to main-line and suburban electrification. After a short period at Manchester, where he was Assistant to the

Kings Cross, at Locomotive Running Superintendent's Headquarters at Liverpool Street, and in the same department at Southend, Boston and Hitchin, before being appointed, in 1932, Technical Assistant, Locomotive Running Superintendent's Headquarters, Liverpool Street. Three years later Mr. Hart-Davies went to Chief Mechanical Engineer's Headquarters, Kings Cross, as Technical Assistant. In 1939 he served with the Metropolitan Special Constabulary, Mounted Division, and in 1940 was commissioned in the Royal Engineers; he saw service in America, India and Burma. He was demobilised in 1945, and returned to his previous appointment in the C.M.E. Department, at Doncaster.



Mr. C. S. Moore

Appointed Transportation Manager,
Bengal-Nagpur Railway



Mr. T. C. Byrom

Appointed District Passenger Manager,
Liverpool, L.M.S.R.



Mr. R. Hart-Davies

Appointed Assistant to Chief Mechanical
Engineer (Locomotive & General), L.N.E.R.

1915, and has served in all branches of the Transportation Department. As Superintendent, Transportation (Planning), during the recent war, Mr. Moore was associated with many important works, including the designing of the Khargpur and Waltair avoiding lines, the remodelling and expansion of the railway layout of Vizagapatam Port and the layout of all military depots and airfield sidings. After the war he revised the system of wagon allotment and introduced a new system of wagon control.

Mr. G. Thompson has been appointed Vice-Chairman of H. W. Ward & Co. Ltd. and Mr. E. W. Field, Managing Director.

The following appointments have been made to the Conservative Parliamentary Transport Committee:—Chairman, Sir David Maxwell Fyfe; Vice-Chairman, Mr. G. E. P. Thorneycroft; Honorary Secretary, Mr. O. B. S. Poole.

SOUTHERN RAILWAY APPOINTMENTS

Mr. F. P. B. Taylor to be Assistant (Services & Finance), General Manager's Office.

Mr. N. E. Hedger, Traffic Department, to be Assistant (Works & Equipment), General Manager's Office.

District Passenger Manager, he was selected to accompany the "Royal Scot" train during its tour of Canada and the United States, and subsequent exhibition at the World's Fair at Chicago in 1933. On returning to this country he was appointed Assistant District Passenger Manager in London, a position he held until the outbreak of war, when he served with the Royal Engineers, and saw service in North Africa, Italy, Normandy and Germany. He attained the rank of Major, and was awarded the M.B.E. for services during the landing at Salerno.

Mr. J. H. A. Middlecoat has been appointed General Agent, Hong Kong, and Mr. S. P. Healey, General Agent, Calcutta, Canadian National Railways.

Mr. R. Hart-Davies, A.M.Inst.C.E., M.I.Loco.E., Technical Assistant, Chief Mechanical Engineer's Office, Doncaster, L.N.E.R., who, as recorded in our October 18 issue, has been appointed Assistant to Chief Mechanical Engineer (Locomotive & General), was educated at Haileybury, and became a pupil at Stratford Works, Great Eastern Railway, in 1920. In 1923 he was appointed Assistant to District Locomotive Superintendent, Norwich; and from 1924 he served in the Locomotive Running Department at Gorton and at

RHODESIA RAILWAYS

Mr. W. J. K. Skillicorn is retiring from the position of General Manager on April 30, 1947.

Mr. J. P. F. Ogilvie, District Engineer, has been appointed Stores Superintendent, Umtali, in place of Mr. A. Bain, retired.

Mr. L. T. Huxtable, Assistant Chief Mechanical Engineer, has been appointed Acting Chief Mechanical Engineer, in place of Major M. P. Sells, Chief Mechanical Engineer, retired.

Mr. S. P. J. Fry, Assistant Chief Engineer, has retired, and is succeeded by Mr. T. Bourdillon.

Mr. N. T. Hunt, Assistant Operating Superintendent, Bulawayo, has succeeded Mr. J. P. Atkinson, retired, as Operating Superintendent.

Mr. A. H. Croxton has been appointed Assistant Operating Superintendent, Bulawayo, in place of Mr. Hunt.

Mr. M. W. Davies, Assistant Operating Superintendent, Beira, has been appointed Assistant Operating Superintendent, Salisbury, in place of Mr. F. Thorn, recently appointed District Superintendent, Broken Hill.

Dr. E. M. B. West, Railway Medical Officer, has been appointed Chief Officer of the newly-constituted African Affairs Department dealing with all questions concerning African labour.

The King of Iraq has conferred on Mr. C. F. Nicoll (Chief Auditor, Iraqi State Railways), in recognition of valuable services rendered by him to Iraqi interests, the insignia of the Fourth Class (Civil Division) of the Order of Al Rafidain.

Mr. R. H. Edwards (Divisional Docks Engineer, Barry, Great Western Railway) was elected Chairman of the South Wales & Monmouthshire Association of the Institution of Civil Engineers for the session 1946-47 at a recent meeting. Subsequently he delivered an address on "The Port of Cardiff, its Conception and Development, 1830-1946," illustrated by lantern slides.

Mr. H. C. Young is retiring from the full-time position of Chief Sales Engineer to Rubber Bonders Limited. Mr. Young has held that appointment, and for a portion of the time the position of Chief Factory Executive, since 1941; his services will be available as Consultant. Mr. W. Boyle, late of the Harland Engineering Co. Ltd., and Lee, Howl & Co. Ltd., is joining the staff of Rubber Bonders Limited as Chief Sales Engineer.

We regret to record the death on November 5, at the age of 75, of Dr. Simon James McLean, C.M.G., Assistant Chief Commissioner, Board of Railway Commissioners for Canada, from 1919 to 1938, and a member of the Board since 1908. Since his retirement in 1938, Dr. McLean had served as Technical Adviser to the Board of Transport Commissioners for Canada. He was the author of numerous articles on railway and other subjects.

At the seventh annual general meeting of the British Valve Manufacturers' Association, Mr. J. M. Storey (Managing Director, Dewrance & Co. Ltd.), was elected Chairman for the ensuing year, in succession to Mr. Robert A. Blakeborough (Chairman & Managing Director, J. Blakeborough & Sons Ltd.). Mr. Bruce Ball (of Glenfield & Kennedy Limited) and Mr. Noel Newman (of Newman, Hender & Co. Ltd.) were re-elected to the executive committee.

COLONIAL RAILWAY APPOINTMENTS
The Crown Agents for the Colonies have made the following first class appointments:—

Mr. A. P. Mainprice to be Surveyor, Railway Survey, Sierra Leone.

Mr. W. Ferguson to be Workshop Accountant, Kenya & Uganda Railways & Harbours.

INDIAN RAILWAY STAFF CHANGES
Colonel R. B. Emerson has been confirmed as Chief Commissioner of Railways. Sir Lakshminpati Misra, Member of the Railway Board, retired from the service as from May 15.

Khan Bahadur Z. H. Khan has been confirmed as Member of the Railway Board.

Mr. B. B. Varma has been confirmed as Director, Establishment, Railway Board.

Khan Bahadur F. M. Khan has been confirmed as Director, Traffic, Railway Board.

Mr. C. G. Sturt, Chief Engineer, O.T.R., has been appointed to officiate as Director, Civil Engineering, Railway Board, as from August 15.

Mr. S. J. P. Cambridge has been confirmed permanently as General Manager, B.-N.R.

Mr. A. G. Hall has been confirmed permanently as General Manager, N.W.R.

We regret to record the death, at the age of 70, of Sir Berkeley Sheffield, Bt., Chairman of the Audit Committee, London & North Eastern Railway Company, and a Director of the former Great Central Railway Company from 1909 to 1922.

Mr. C. E. Rooke, C.M.G., M.Inst.T., has been appointed Inland Transport Adviser to the Secretary of State for the Colonies. Mr. Rooke is also a Director of the Nyasaland Railways Limited, Central Africa Railway Co. Ltd., and Trans-Zambesia Railway Co. Ltd.

We regret to record the death, on November 24 of Mr. Hayward Percy Ball, formerly General Traffic Manager, Bombay, Baroda & Central India Railway, who retired in 1935.

RAILWAY MOVEMENTS CONFERENCE DINNER

A re-union dinner was held recently at Charing Cross Hotel, London, at which were present from all over the country 92 persons, representing the Great Western Railway, L.M.S.R., L.N.E.R., Southern Railway, Cheshire Lines Committee, War Office, Admiralty and Royal Air Force, who formed a large proportion of those who had attended the frequent wartime meetings between War Office, Q(M)4, Admiralty, R.A.F. and railway companies' representatives to arrange for troop movements. The guests were welcomed by Mr.

Finance & Statistics Section, Railways Branch, Control Commission for Germany (B.E.)



Members (many seconded from British railways) of the Finance & Statistics Section, Railways Branch, Transport Division, Control Commission for Germany (British Element), in September, 1946

Back row: Fräulein Olshausen, Krykant, Erdmann, von Kuhlmann; and Driver Hoffmann

Centre row: Messrs. C. Birkett (L.N.E.R.); A. H. Reeve (L.M.S.R.); Mrs. L. Buckner; Miss S. E. E. Abernethy (L.M.S.R., N.C.C.); Miss M. M. Bennett; Miss D. Cahoon; Messrs. H. Carpenter; V. M. Hora (formerly G.W.R.)

Front row: Mr. J. Jones (L.N.E.R.); Lt.-Colonel G. W. Evans, R.E. (formerly Canadian Pacific Railway); Dr. F. Busch; Mr. G. J. Harris, Chief Control Officer (lately Accountant, L.M.S.R., N.C.C.; now Assistant to Chief Accountant, L.M.S.R., Watford); Herr Prang; Messrs. A. C. Woods (L.M.S.R., N.C.C.); J. Hunter (lately Chief Accountant, Sierra Leone Government Railway); R. L. S. Weyer (L.N.E.R.)

P. E. Weeks (Southern Railway), who was chairman. During dinner the toasts of "The Railways" and "The Services" were proposed, respectively, by Major L. Heydon (late of Q(M)4) and Mr. S. A. Newman (L.M.S.R., Watford); and Mr. A. Greig (G.W.R., Paddington) and Wing-Commander W. Royle replied. Mr. H. T. Hooper (L.M.S.R., Manchester) recalled the corresponding conference during the 1914-18 war, and drew attention to the fact that three persons who had been members of that conference were present—Messrs. R. Crosbie (L.N.E.R.), R. Levein (Southern Railway), and himself. The predominant note of the speeches was of the spirit of co-operation between the Services and the railways, without which the success of the many large movements would not have been attained. Hopes that the function might be the precursor of an annual event were expressed in a vote of thanks to the committee, Messrs. B. Barrett (G.W.R.), W. Morris (L.M.S.R.), R. A. Laird (L.N.E.R.), and R. Levein (Southern Railway). The Chairman's health was proposed by Mr. George Smith (L.N.E.R., Darlington).

The late Mr. Asa Binns, who was Chief Engineer, Port of London Authority, from 1928 until his retirement in 1938, after which his services continued to be at its disposal in a consultative capacity in association with the firm of Rendel, Palmer & Tritton, left £9,657.

Mr. W. A. Lambert, who has retired from the position of Goods Superintendent, Paddington, Great Western Railway, joined the company in the Goods Department at Wellington (Shropshire), and in 1904 was transferred to Park Royal. He later went to the company's depot at Poplar, and subsequently returned to Park Royal and became Chief Clerk in 1913. In 1912 he was given the task of introducing and supervising the cartage arrangements when the G.W.R. opened its new goods depot at South Lambeth, of which he took charge in 1933. He became Goods Superintendent at Paddington in January, 1937.

A biography of Mr. H. W. Howard, who has been appointed Goods Superintendent, Paddington, in succession to Mr. Lambert, appeared in our issue of February 22 last.

INSTITUTE OF TRANSPORT EXAMINATIONS

The following are among those who have passed examinations of the Institute of Transport for 1946:—

Associate Membership, parts 1 and 2: Messrs. J. C. Baillie (G.N.R., Ireland); G. R. Bonavia, E. F. Hens (G.W.R.); Annamalai Channugarajah, A. R. Silva (Ceylon Government Railway); E. W. Godbehere, C. Hankins, W. E. Prue, A. R. Smith (passed with honours) (L.M.S.R.); R. W. Greenfield, H. R. Leeds, A. E. Taylor (L.N.E.R.); P. T. Knight (passed with honours) (Southern Railway); N. S. Louw, G. L. Malherbe, R. T. van der Linden, D. C. Vaughan, M. T. S. Vos (South African Railways & Harbours).

Associate Membership, part 1: Messrs. M. Coetzee, C. P. Cornelius (South African Railways & Harbours); J. P. Houston (L.M.S.R. Northern Counties Committee); E. J. Hull (Belfast & County Down Railway); V. F. J. Jefferies, W. R. Veryard (G.W.R.); J. Kerr (L.M.S.R.); J. A. Sanderson (L.N.E.R.).

Associate Membership, part 2: Messrs. W. Burns (L.N.E.R.); G. Musk (Canadian Pacific Railway).

Associate Membership, qualified by thesis: Mr. H. Guinness (G.W.R.).

Associate Membership, supplementary subjects (Economics of Road Transport and Road Transport Operation): Mr. T. E. Mitchell (L.M.S.R.).

Graduateship, parts 1 and 2: Messrs. R. Birnie, H. J. Ferguson, G. H. Murrell (L.P.T.B.); A. E. Cooper (Railway Clearing House); J. J. Davel, C. J. du Preez, J. Hamel, L. Meijer, P. G. Muller, R. Pavitt, R. P. L. Preiss, P. J. Steyn (South African Railways & Harbours); F. Goodwin, D. Mee, R. Purves, W. O. Thomas (L.M.S.R.); C. W. Leverett (Palestine Railways); D. C. Maxwell (Southern Railway); F. D. Murray (Coras Iompair Eireann); W. Purdom (L.N.E.R.); J. P. Shiel (G.N.R., Ireland); D. L. Thomas (G.W.R.).

Graduateship, part 1: Messrs. E. M. Baldock, L. R. Everett (Southern Railway); B. H. Beard, R. W. Brangwin, K. J. Deacon, R. Hill, A. Lines, C. E. Prior (G.W.R.); L. A. Bunting, A. M. Douglas, J. T. Gould, T. L. Henshaw, T. G. Hewitt (L.M.S.R.); A. Crerar, E. L. G. Gessler, J. E. Hainsworth, A. Portellos, E. H. Sanderson-Smith, L. H. van der Riet (South African Railways & Harbours); K. J. Lee (L.N.E.R.); M. D. Rodrigo (Ceylon Government Railway); D. P. Williams (L.P.T.B.).

Graduateship, part 2: Messrs. J. B. Baverstock (Kenya & Uganda Railways & Harbours); K. J. Blythe, T. Hunter (L.M.S.R.); R. P. Hampson (Rhodesia Railways); A. Hussain (N.W.R., India); J. B. Mason (South African Railways & Harbours); R. V. Rupasinghe, A. G. L. Serpanchy (Ceylon Government Railway).

Welded Water Troughs on the L.M.S.R.

Hadmore Troughs are situated between Tamworth and Lichfield (Trent Valley) stations on the Western Division of the L.M.S.R., at a distance of 114 miles from London. The troughs are located at the foot of falling gradients in each direction, on a two-track section of line the occupation of which is very heavy. These factors, in conjunction with the softness of the ground formation, have caused some difficulties in the past in the maintenance of the troughs and tracks due to the quantity of water lost by spillage and leakage from the joints, which has been taking place to a considerable extent.

In renewing the troughs, opportunity has, therefore, been taken by the L.M.S.R. to weld the troughs themselves into long lengths, in conjunction with the latest practice of track-laying by the one-crane and two-crane methods, so as to minimise loss of water from the renewed troughs and thus to improve the state of the formation for the future.

The method used for pre-welding and relaying the troughs is considered to be unique. Normal practice hitherto has been to lay the troughs themselves in sections of 10 ft., and to bolt or rivet together after laying; this method unavoidably exposes the joints to stress, and consequently to risk of leakage should the location of the troughs and volume of fast traffic pre-dispose this, as is the case at Hadmore. In the renewal of the Hadmore troughs, which was carried out in two stages on November 17 and 24, the actual trough sections were manufactured in the normal 10-ft. lengths, but were welded into 60-ft. lengths at an L.M.S.R. permanent way depot. Special rotating jigs were used to enable the sections to be turned so as to facilitate arc welding of all parts of the joints.

The length of each set of troughs is 600 yd., and by welding the troughs into longer lengths the number of bolted joints to be maintained in future has been reduced by 80 per cent., in addition to improving simplicity and speed of laying them. The 60-ft. welded sections were then loaded on to bogie rail wagons for conveyance from depot to working site in company with other vehicles carrying the pre-fabricated permanent way, and stone for ballasting the track. The marshalling of these trains required considerable care in order to ensure that the respective materials were available for laying by crane in the exact sequence required.

LENGTH OF TRACK

The track to be relaid, including the portion with the troughs, comprised 720 yd. on the down line and 740 yd. on the up line. The whole of this track was pre-assembled at a depot in 60-ft. lengths for laying by the crane method, of which the L.M.S.R. is now making more extensive use in order to save time and manual effort in permanent way renewals, as well as to cause less traffic interference. The track itself is made up of 113-lb. flat bottom rail, having cast-iron baseplates, with elastic rail spike fastenings, and using 26 sleepers per 60 ft. rail length—a ratio which is peculiar to track laid under water troughs, or in tunnels. The elastic rail spikes have been specially treated, in that they have been Parkerised to retard corrosion, and some have been galvanised. The troughs also have been treated with an anti-algae paint.

The renewal involved complete occupation of both running lines (the track being relaid for 8 hr. and the other for 13 hr.), on the two Sundays. During each stage, the material trains stood on the track being renewed, with the vehicles marshalled according to requirements on each side of the section being relaid. For the initial one-third of the task, the two-crane method was used, until the water feeder-points to the troughs were reached; at this stage the one-crane method was adopted, the second crane being turned back in order to lift the welded sections of the troughs off their wagons, and bring them along for installation on the new track as soon as this was laid. Special lifting tackle was designed for lifting the trough sections off the rail wagons; another unusual feature was the provision of timber baulks to protect, when loaded on rail wagons, the trough brackets which already had been pre-fixed to the pre-assembled track.

NIGHT WORK

In order to facilitate work in darkness, two portable electric lighting sets have been provided, each consisting of a 1-kW. petrol-driven dynamo, supplying current to six 300-watt lamps; the latter were distributed at 50-ft. intervals throughout the work, and were moved as required by its progress. On completion of relaying, the track was ballasted throughout with 4 in. thickness of new ballast.

The total number of men employed was very much less than that necessary on previous occasions, but the same work was carried out on the two Sundays as could only have been done on ten Sundays previously. The work was supervised, on behalf of the Chief Civil Engineer (Mr. W. K. Wallace), by Mr. H. B. Everard (Assistant Engineer, Permanent Way), Mr. N. W. Swinnerton (Assistant for Improvements, Permanent Way), and Mr. F. Everitt (District Engineer, Crewe).

Questions in Parliament

Transport Anti-Nationalisation Campaign

Mr. W. N. Warbey (Luton—Lab.) on November 18 asked the Minister of Transport whether his attention had been drawn to the anti-nationalisation campaign now being conducted by the four main-line railway companies, in conjunction with the Road Haulage Association, through the medium of pamphlets and advertisements in the public Press; whether an estimate of the cost of that campaign had been submitted by the railway companies at the time of their latest application for an increase in fares; and what steps he was taking to ensure that the cost of that campaign should not fall on public funds.

Mr. Alfred Barnes (Minister of Transport), in a written answer, stated: I would refer Mr. Warbey to the answer I gave to Mr. H. Hynd (Hackney Central—Lab.) on March 12 last. As expenditure incurred for the purpose in question does not fall on the Control Account, no estimate of the cost was submitted at the recent hearing of the Charges Consultative Committee.

Railway Traffic Acceptance Restrictions

Mr. Edward Evans (Lowestoft—Lab.) on November 18 asked the Minister of Transport whether he was aware that essential materials for the repair of the sea wall at Lowestoft had had to be brought by road at an increased cost to the corporation on account of the embargo on delivery of such materials by the L.N.E.R.; and whether, in view of the serious consequences which would ensue, due to delay in delivery of those materials, he would cause the embargo to be removed.

Mr. Alfred Barnes stated in a written answer: I am aware of the difficulties, which are due primarily to shortage of locomotive power. The restrictions on acceptance of traffic are reviewed daily and removed as soon as conditions allow.

Railway Sleeping Berth Allocation

Lieutenant William Shepherd (Bucklow—C.) on November 18 asked the Minister of Transport if he would inquire into the practice of gratuities being offered and accepted as the basis for allocation of sleeping berths on railways, with special reference to the Manchester-London run, and would he take steps to prevent it.

Mr. Alfred Barnes, in a written answer, stated: Following representations from Lieutenant Shepherd, I inquired specially into the allocation of berths on the Manchester-London service on an occasion to which he referred, but I was satisfied that the berths had been properly allocated in order of application. Both I and the railway company are concerned at the suggestion that gratuities influence the allocation of sleeping berths, and if Lieutenant Shepherd has any evidence that this is the case, I will, as I have already told him, make further inquiries.

Railway Wagons

Lt.-Colonel G. M. Sharp (Spen Valley—Lab.) on November 20 asked the Minister of Transport how many railway-owned wagons and how many private owners' wagons were now held by the Freight Rolling Stock Control.

Mr. Alfred Barnes, in a written answer, stated that 661,863 railway-owned and 585,152 requisitioned private owners' wagons were now controlled by the Freight Rolling Stock Control.

Lt.-Colonel G. M. Sharp on November 20 also asked the Minister of Transport

how many railway wagons were now standing under or awaiting repair; and if he would give the corresponding figures for 1940 and 1945.

Mr. Alfred Barnes stated in a written answer: The number of wagons under and awaiting repair on October 25, 1946, was 164,462, and the figures for corresponding dates in 1945 and 1941 were 159,031 and 67,730, respectively. Figures for 1940 are not available.

Railway Goods Transport Delays

Mr. C. Osborne (Louth—C.) on November 18 asked the Minister of Transport if he was aware that, on August 19, 24 empty cases had been handed to the L.M.S.R. at New Cross, London, for despatch to Wolverhampton; that after 75 days' delay they had not yet been delivered and the railway company had no knowledge of their whereabouts; and if he would investigate the causes of those long delays in goods transport and take steps to prevent them in future.

Mr. Alfred Barnes in a written answer stated: The L.M.S.R. has no depot at New Cross, but if Mr. Osborne will furnish me with information as to the name of the consignee and the name of the railway company to which the cases were handed I will have further inquiries made.

Carriages and Waiting Rooms

Flight-Lieutenant J. E. Haire (Wycombe—Lab.) on November 18 asked the Minister of Transport if he was aware of the dirty conditions prevailing in many railway carriages and station waiting rooms; and if he would take immediate steps to improve standards of comfort and hygiene.

Mr. Alfred Barnes in a written answer stated: Considerable arrears of redecoration and renovation have unavoidably accumulated during the war, and in present circumstances much-needed renovation must yield place to more urgent requirements. The railway companies are, however, doing their best with the limited resources available. If Flight-Lieutenant Haire will inform me of any particular cases he has in mind I will see what more can be done.

Railway Mineral Traffic

Mr. J. Harrison (Nottingham East—Lab.) on November 18 asked the Minister of Transport if he would make immediate inquiries into the congestion of mineral traffic on the railways in the Midlands, which already had forced the Welbeck and Blidworth pits and others to reduce output, taking into consideration the facts that the weather had been good for transport recently and there had been no immediate reduction in the number of wagons and engines available for that traffic.

Mr. Alfred Barnes in a written answer stated: The records of wagons put into the collieries named by Mr. Harrison over the past five weeks show that a fair supply was maintained, but that notwithstanding small quantities of coal were lost. There is some difficulty in keeping all collieries fully supplied with wagons owing to the general shortage of wagons and locomotives due to lack of renewal and maintenance during the war. I have instructed the railway companies that movement of coal must be given priority in wagon supply and they assure me that every endeavour is made to equalise the available supply of all pits.

Mr. A. J. Champion (Derby Southern—Lab.) on November 18 asked the Minister of Transport if he had investi-

gated the complaint of the chaotic state of the rail transport of coal in the North Midlands sent to him by Mr. Champion on October 21, and if he would make a statement.

Mr. Alfred Barnes stated in a written answer: Yes. As I have explained to Mr. Champion in my letter of November 14 the delay in the area in question was due to an abnormal flow of coal to London and the south of England for building up stocks for the winter. In addition, repair work to the Woodhead Tunnel necessitated a substantial diversion from the London & North Eastern system to the London Midland & Scottish Railway of traffic consigned to London. The situation was further aggravated by a shortage of staff in the traffic movement grades in the London area.

Passenger Train Services

Mr. Edward Evans (Lowestoft—Lab.) on November 18 asked the Minister of Transport what alterations had been made in the passenger train service to and from Lowestoft; whether he was aware that the inadequate service acted as a deterrent to industrial development of the town; and if he would seek an early opportunity to improve the service.

Mr. Alfred Barnes in a written answer stated: I am informed that the principal alterations made on October 7 in the passenger train services to and from Lowestoft were the acceleration of the mid-morning express from Liverpool Street by 23 minutes; the introduction, in place of the portion formerly provided on the 3.40 p.m., of a through train at 3.20 p.m. from Liverpool Street, giving an acceleration of 19 minutes on the time of the afternoon journey; and the provision of a new through train from Lowestoft to London at 4.18 p.m. A restaurant car is provided on one additional service in each direction. The existing service is almost up to the level of that provided before the war.

London-Cambridge Railway Service

Major A. L. Symonds (Cambridge—Lab.) on November 20 asked the Minister of Transport if he would inquire into the practice of the L.N.E.R. on the service between Cambridge and Liverpool Street of running fast trains shortly after slow trains, with the result that the fast trains regularly arrived late; and if he would take steps to improve the service both to and from Liverpool Street.

Mr. Alfred Barnes stated in a written answer: It is normal railway practice, on sections of the line where both express and ordinary trains run, to operate stopping trains in advance of fast trains. The stopping trains thus act as feeder services to the fast trains and provide better facilities to passengers from intermediate stations at which the fast trains do not call. The delays on the Cambridge line are due to the poor condition of locomotives, the maintenance and renewal of which suffered during the war, and not to faulty planning of the timetable. The railway company appreciates that the service is unsatisfactory and assures me that it is doing all it can to improve it.

Major A. L. Symonds on November 20 also asked the Minister of Transport on how many days, since October 7, the 7.47 a.m. train from Cambridge to Liverpool Street and the 5.49 p.m. train from Liverpool Street to Cambridge had arrived on time.

Mr. Alfred Barnes, in a written answer, stated: I am informed that during the period October 7 to 30 the 7.47 a.m. train from Cambridge to London arrived on time on four days. The 5.49 p.m. train

from Liverpool Street to Cambridge was late every day.

L.P.T.B. Fares

Mr. A. M. Skeffington (Lewisham West—Lab.) on November 18 asked the Minister of Transport if he would consider, with the L.P.T.B., the introduction between the hours of 10 a.m. and 4 p.m. of a short-stage 1d. fare to assist housewives in their shopping problems.

Mr. Alfred Barnes in a written answer stated: A 1d. fare for one-stage road journeys has already been considered by the Board and the Charges Consultative Committee, and has been found to be impracticable.

L.P.T.B. Accounting System

Mr. A. M. Skeffington (Lewisham West—Lab.) on November 18 asked the Minister of Transport whether he had considered the comments made by the Charges Consultative Committee on the accounts as presented by the L.P.T.B., and whether he was prepared to examine the methods used by that corporation with a view to introducing a better system of accounting.

Mr. Alfred Barnes in a written answer stated: The net revenue account submitted by the Board to the Charges Consultative Committee was prepared in accordance with the provisions of the Railway Control Agreement, under which certain settlements between the railways and the Board were rendered unnecessary. While the agreement remains in force this form of accounting must continue.

Trinidad Government Railways' Employees and Housing Loans

Mr. C. W. Dumbleton (St. Albans—Lab.) on November 20 asked the Secretary of State for the Colonies whether he was aware that servants of the Trinidad Government Railways were debarred from obtaining loans from the Government Employees' Housing Loan Fund; and whether he would take steps to remedy that position.

Mr. A. Creech Jones (Secretary of State for the Colonies) stated in a written answer: The answer to the first part of the question is in the affirmative. I will certainly consider the point which Mr. Dumbleton has raised.

Malayan Union Transport Board

Mr. L. D. Gammans (Hornsey—C.) on November 20 asked the Secretary of State for the Colonies if he was aware that dissatisfaction had been expressed in Malaya concerning the method of appointment of officers to the Malayan Union Transport Board; if he would state the number of appointments already made to that Board, with their salaries and the qualifications demanded; and why those appointments had not been advertised publicly.

Mr. A. Creech Jones in a written answer stated: No. I am not aware of any such dissatisfaction. Of the twenty-seven higher appointments under the Malayan Union Transport Board, fourteen have been filled by new recruitment and the remainder by available pre-war staff. The salaries of new appointments no doubt vary within time scales ranging between £560 a year and £1,120 a year, but exact information about every case is not available in this country. The qualifications demanded were previous experience of motor transport work and personal suitability, and the selection for new appointments was made from those members of the Fighting Services who were applicants, in accordance with conditions circulated throughout the Army and Royal Air Force,

for appointments to the Civil Affairs Staff of the Military Administration and to the service of the Civil Governments which were to succeed that administration.

German Railways

Mr. W. McAdam (Salford North—Lab.) on November 20 asked the Chancellor of the Duchy of Lancaster if he was aware that one of the difficulties in restoring the economic and social life of Germany was the disorganised condition of the German railways; what steps were being taken to restore the railways to a state of efficiency; and by whom.

Mr. J. Hynd (Chancellor of the Duchy of Lancaster) stated in a written answer: No. The German railways are no longer disorganised, but are working efficiently with the limited rolling stock at their disposal. The problem is now one of increasing that rolling stock, particularly locomotives and freight trucks, and this is receiving the constant attention of the Control Commission.

Austrian Railway Services

Lt.-Colonel W. M. Vane (Westmorland—C.) on November 20 asked the Chancellor of the Duchy of Lancaster why there had been cuts in the railway passenger services in the British zone of Austria; when he expected the recently-cancelled services may be restored; and whether similar cancellations had been made in the railway services in all four zones.

Mr. J. Hynd, in a written answer, stated: Cuts in railway passenger services were made by the Austrian authorities because of the depletion of stocks of locomotive coal. A number of trains was reinstated on November 10 as a result of the release of emergency coal stocks by the occupying Powers. Similar cancellations were made in all four zones, but these were less extensive in the French and American zones, which possess sources of hydro-electric power.

Pennsylvania Railroad Track

The centenary of the Pennsylvania Railroad, to which we have made more than one reference already, is being marked in the U.S.A. press by a series of that com-

pany's advertisements under the general heading of "One Hundred Years of Transportation Progress." A recent announcement in this series deals with the introduction of the steel rail, and states that before 1864 all trains in the U.S.A. ran on rails of iron; steel rail was not made in America. In that year, however, the Pennsylvania Railroad ordered 400 tons of steel from England (at \$150 a ton) and had it hammered into rail. This steel rail proved twice as strong and wore four times as long as iron. Twenty years later the steel rail still virtually constituted the steel business in the U.S.A., but in 1929, when three times as much steel rail was rolled as in 1880, steel rail amounted to only 5 per cent. of the steel business. Today the Pennsylvania Railroad uses the heaviest rail in the U.S.A. Altogether, there are more than 5,000,000 tons of steel rail in

the Pennsylvania roadbed, a quantity which, if simultaneous replacement became necessary, would occupy all the steel mills in the U.S.A. for a year and a half. We reproduce from the advertisement a series of rail sections showing the progressive increases in size and weight of rail.

Institute of Travel Agents

The annual luncheon of the Institute of Travel Agents was held at the Waldorf Hotel, Aldwych, London, W.C.2, on Wednesday, November 20. The Rt. Hon. A. Creech Jones, P.C., M.P. (Secretary of State for the Colonies) was the principal guest; the President of the Institute of Travel Agents, Mr. D. Gourlay, was in the chair.

Mr. Creech Jones, in proposing the toast of the Institute, emphasised the importance of the social service which its members rendered, and the benefits which they could bring about, in view of the new economic order which had as its objective increased leisure for large masses of the community. This increased leisure would add to the responsibilities already borne by travel agents, and indeed all those engaged in transport industries. As Colonial Secretary he was particularly interested in Colonial development and welfare, and one of the problems which had to be tackled was the building up of a flourishing tourist industry in the Colonies.

Mr. Gourlay, in responding to the toast, welcomed the Minister and said that 90 per cent. of the travel agents in this country were members of the Institute of Travel Agents.

Sir Eric Studd (Polytechnic Touring Association) proposed the toast "The Transportation Companies," and welcomed representatives of the various transport undertakings; he said that they shared a common aim in wishing to see that as many as possible travelled as widely as possible, and in achieving that all had an equally important part to play.

Mr. C. E. Pierce (Cunard White Star Limited) said that whatever the future might be for air travel in relation to ocean



travel by ship, they could agree that at the moment there was ample employment for both. The most important matter these days was to get the traveller moving, and at this end it was necessary to put forward the maximum effort to secure the removal of obstacles to travel.

Mr. J. R. Ashwell Cooke (British Overseas Airways Corporation), who responded, said that it was apparent that the British public was determined to travel. He did not know whether this was due to the example which had been set by our politicians, or whether it was the result of seven years of abstention.

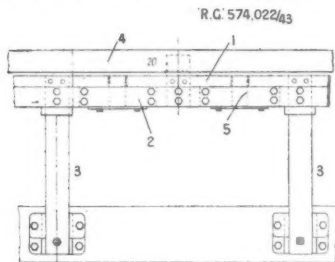
Mr. J. R. Thomas, M.P., F.C.A., Secretary of the Institute, proposed the toast of "The Guests," to which Mr. E. Huskisson (Thos. Cook & Son Ltd.) responded.

ABSTRACTS OF RECENT PATENTS*

No. 574,022. Detection of Railway Vehicles

J. Boot and Metropolitan-Vickers G.R.S. Limited, both of Crown House, Aldwych, London, W.C.2. (Application date: November 11, 1943).

A device for use in detecting the passage of railway vehicles past a given location comprises two bars, 1, 2, mounted on spring supports 3 so as to be adjacent to one rail 4. When a vehicle passes over



the device, the flange of the wheel passes along bar 1, so flexing it relative to bar 2. The relative movement is detected by a plunger-type micro-switch, the switch being attached to the bar 2 and the plunger being operated by a plate 5 welded to the bar 1. In an alternative arrangement, the bar 1 is set above bar 2 and spaced slightly from it. In either case the spring supports 3 allow for various depths of flange.

No. 574,115. Fitting of Bearings

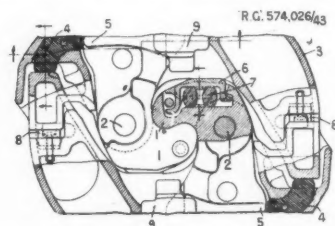
J. A. Hill, of Lindow Lodge, Clarendon Road, St. Annes-on-Sea. (Application date: January 6, 1944).

In order to avoid the necessity for machining the outer surface of a bearing to fit its housing, a taper thread is cut on the surface and engages a correspondingly threaded expanding bush placed in the housing. As the bearing is screwed into the bush, the latter is expanded by the thread and becomes a tight fit in the housing.

No. 574,026. Automatic Couplings

A. H. Stevens. (Communicated from American Steel Foundries, of 410, North Michigan Avenue, Chicago, U.S.A.) (Application date: November 18, 1943).

An automatic knuckle type coupling is provided with various cushioning means to



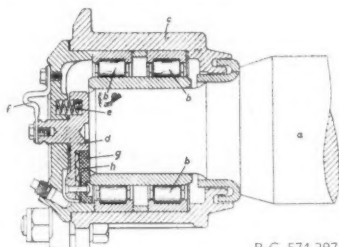
prevent slackness and play between mating couplers. The knuckles 1 are pivoted at 2 and are carried in a housing having a projected guard arm 3, the outer end of which thrusts against a resilient member 4 in the other coupling, the opposite end of this member pressing against the side of

the associated knuckle tail 5 to prevent slackness. The face of the knuckle has a blade 6 which is thrust against the opposite face of the other coupling by resilient blocks 7, and a cushioning stop 8 is fitted above and below the centre line on each side between the opposing coupler heads. Each knuckle is secured by a lock 9, having parallel bearing faces to prevent it working out of engagement when the coupling is pulling, and having an anti-creep lug at its lower end to prevent accidental lifting of the lock.

No. 574,297. Axle Bearings for Electric Vehicles

Hoffmann Manufacturing Co. Ltd., of Chelmsford, Essex, and C. H. Smith, of "Brockham," Danbury, Chelmsford, Essex. (Application date: January 27, 1944).

An axle bearing for electrically-driven trains, capable of passing current satis-



factorily from the frame to the axle, has the axle a carried on roller bearings *b* in the axlebox *c*. An electrically conducting pad *d*, held against the end of the axle by one or more springs *e*, provides an electrical connection and also takes the end thrust of the axle. Direct electrical connection between the pad *d* and the axlebox is provided by a conductor *f*, and a felt lubricating pad *g* may be held against the end of the axle by a spring *h*.

No. 575,152. Exhaust Valves

W. A. Headford, of 22, Kersteman Road, Redland, Bristol. (Application date: October 23, 1944).

Exhaust valves are formed with a flared deflecting collar immediately below the head so that gases are deflected outwardly at the point where they would otherwise enter the valve guide. This prevents corrosion of the valve stem and, by producing a partial depression at the top of the guide, tends to suck oil up into the guide and around the stem.

No. 574,121 Rail Brakes

Westinghouse Brake & Signal Co. Ltd., A. G. Kershaw and N. G. Kershaw, all of 82, York Way, Kings Cross, London, N.1. (Application date: January 7, 1944).

In order to reduce the speed of a vehicle or bring it to rest, a bar is set between the rails parallel to them, but raised at the end remote from the approaching vehicle, so that as a wagon passes over it, the axle depresses the bar against a suitable spring. A manual or power-operated device is fitted to hold the bar down clear of the axles when it is not required.

No. 575,157. Injection Nozzles

R. P. Fraser, of Tir-Na-N'og, Kingston Hill, Surrey. (Application date: August 31, 1943).

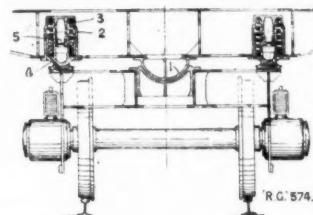
Instead of the usual method of injecting fuel by raising the pintle of an injection

nozzle against a spring, by increased fuel pressure, the fuel is maintained under constant pressure in the space around the pintle, which normally is held on its seating by compressed air. At the moment of injection the air pressure is removed and air is free to pass to the cylinder without any bouncing of the pintle.

No. 574,817 Bogie Mounting

Sulzer Frères S.A., Winterthur, Switzerland. (Convention date: July 18, 1942).

A body frame is mounted on a bogie by



a central pivot 1 combined with spring side bearings secured to the frame and thrusting on the bogie. These comprise a spring 2 contained between two telescoped cylinders 3, 4 having an oil dashpot damping device between them. Relative movement between these two parts forces oil through a small orifice in a plug 5, but this arrangement may be modified, with spring-loaded valves, so that violent movement in one or both directions opens a valve to permit easier passage of the oil.

No. 574,314. Bearing Liners

Precision Bearings Limited, of Precision Works, 12, Wadsworth Road, Perivale, Greenford, Middlesex, and M. Melhuish, of 93, Chalk Hill Road, Wembley Park, Middlesex. (Application date: July 31, 1944).

Heavily stressed bearings, as in diesel engines, are fitted with liners made of steel having a lead content of up to 10 per cent., no further anti-friction lining being necessary. Where the lead content reduces the compressive strength of the steel, to an undesirable extent, a steel of higher carbon content is used.

No. 575,013. Fuel Pump Governor

C.A.V. Limited and W. E. W. Nicolls, both of Warple Way, Acton, London. (Application date: January 25, 1944).

A governing device for fuel injection pumps is actuated by oil under pressure from an engine-driven gear pump so that the pressure is dependent on engine speed. The oil actuates a piston connected to the control rod of the fuel pump, but is differentially connected to a further piston which cuts off or reduces the fuel if the oil supply to the device fails. A manual control is provided to supply an excess of fuel for starting.

Complete Specifications Accepted

574,278. A. F. Collins and London Passenger Transport Board. Handgrips.

574,315. Allmänna Svenska Elektriska Ak. Control of cable railways.

574,434. Stilwell, W. E. Electric circuit breaker.

574,470. Pressed Steel Co. Ltd. Weatherproofing strip for doors, etc.

574,593. Northern Coachbuilders Limited and Hatton, H. W. Channel members for body construction.

574,732. Robertson, J. H., and Childs, J. H. Self-locking nuts.

574,815. Sulzer Frères, S.A., Piston rings.

* These abridgments of recently published specifications are specially compiled for *The Railway Gazette*, by permission of the Controller of His Majesty's Stationery Office. Full specifications can be obtained from the Patent Office, 25, Southampton Buildings, London, W.C. 2, price 1s. each

Improvements in Metropolitan Line Coaches

Improved "daylight" lighting and a continuous band of route diagrams around the ceiling are features in two test underground cars being put into service by London Transport on Metropolitan Line services between Uxbridge, Baker Street, and the City.

Twenty-two fluorescent tubes in each car, held in white casings, give a steady and well-diffused light. They are ranged in two rows over the seats. Six lights of the ordinary bulb type are provided also for emergency use.

Newly-designed diagram maps of the Metropolitan Line, extending from Rickmansworth, Uxbridge, and Hammersmith in the west, to Barking and New Cross in the east, are posted in a continuous band or frieze just above the windows and doors at the passengers' eye level, making it easy to consult the maps from every seat in the car.

The object of the cars is to test out features which are likely to be incorporated in the 143 new District and Metropolitan cars now under construction.

Other features being tried out in the two test cars are improved current pick-up equipment, and a dual-purpose generator of Metropolitan-Vickers design. The generator supplies 110 volts a.c. for the fluorescent lighting circuit, and 50 volts d.c. for the emergency circuit. A similar fluorescent lighting installation was made in an experimental coach placed in service on the Metropolitan Line early this year, and described in our February 1 and June 14 issues.

Fifty Swedish Locomotives for Holland

An important reconstruction order just completed by Sweden has been the delivery of 50 large steam locomotives to Holland. The first units were sent by sea to Holland in March, and the rest have been hauled "dead" by rail all the way from Sweden.

The locomotives were built by the well-known Swedish locomotive works, Nydqvist & Holm, with whom the order was placed by the Dutch Government in 1943. Fifteen of them are express engines with a weight in working order of 136 tons, and the remaining 35 are goods

engines weighing 127 tons in working order. This delivery has been of great value to the Netherlands Railways, whose locomotive stock was badly damaged and depleted by the Germans.

It was stated recently that some 400 locomotives of the Netherlands Railways had been located in Germany of which only a limited number was repairable, and that 326 locomotives in service in Holland represented only 37 per cent. of the total available in 1944. Some notes on the destruction of railway material carried out by the Germans in their retreat from Holland appeared in our issues of May 17, July 19, and July 26.

Garratt Locomotives in Western Australia

The operation of Australian Standard Garratt locomotives has been subject to various restrictions as a result of complaints by the Locomotive Engine Drivers', Firemen's, & Cleaners' Union. After the union had presented an ultimatum that its members would no longer work the engines, a Royal Commission was formed in October, 1945, to decide whether the locomotives required modifications, or should be removed from service. At the same time it was agreed between the Government and the union that their use on passenger trains should be discontinued, and that they should be subject to a speed limit of 25 m.p.h.; also, that engines requiring major repairs should be given low priority.

ROYAL COMMISSION'S REPORT

The Royal Commissioner delivered his report on August 29 this year. In recommending certain alterations, only a few of which were major, he said that all Garratt locomotives held up in shops awaiting repairs or adjustments should be attended to immediately.

STRIKE CALLED AFTER DISMISSALS

Despite the recommendations of the Royal Commission, the union maintained its antagonistic attitude to these locomotives, and the position culminated in an ultimatum that they would not be worked after midnight on November 3. On November 4 men rostered to work the engines refused to take them on traffic, and as a result six men were suspended

from duty. Despite protracted negotiations for a settlement, the union decided to strike as from midnight on November 6, and all traffic on the Western Australian Government Railways stopped accordingly.

The Registrar of the Arbitration Court has called on the union to give reasons why it should not be de-registered, and the Commissioner of Railways has issued a complaint against each of the 24 executive delegates and members of the union, charging them with taking action contrary to the provisions of the Industrial Arbitration Act.

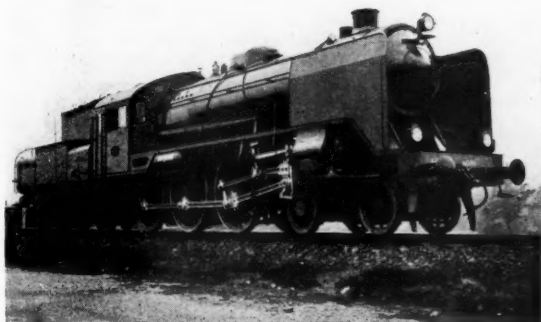
The charges were heard before the full Bench of the Arbitration Court on November 16.

Services Interrupted by Floods

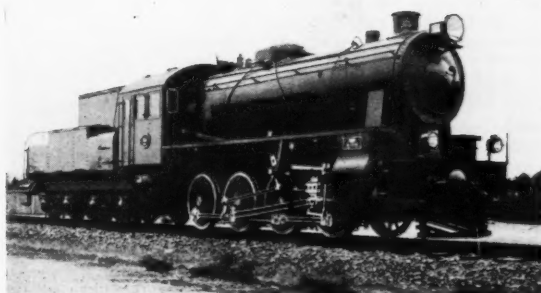
Heavy rainfall last weekend affected train services in many parts of the country. Floods in the Aberdare Valley caused the suspension of G.W.R. trains from Abercynon and Quaker's Ash at 9 p.m. on November 23, and passengers were conveyed to their home by special buses. A landslide covering the track for about 20 yd. between Pontypridd and Trehafod on the same date derailed a train of empty coaches, and a passenger train from Treherbert to Cardiff was derailed by the gale. On November 25 a subsidence occurred near Llanbyther, G.W.R., derailling an engine and a number of wagons. Bus and lorry services were instituted for passengers and goods between Llanbyther and Pencader. In the London area, a slip in the embankment at Berrylands, Southern Railway, on November 25, obstructed one line for a time and necessitated the diversion of trains from Portsmouth and Guildford via Chertsey.

P.S.V. LICENSING SYSTEM. The pre-war licensing system for public service vehicles will be reintroduced gradually from January 1, in place of the issue of wartime permits. At first, this procedure will apply only to new applications in respect of new vehicles, rebuilt vehicles, or those that have changed ownership. The licensing of drivers and conductors, in lieu of wartime permits, will begin automatically on the same date, and will cover driving tests: existing permits will remain valid up to their present expiry dates.

Swedish Passenger and Goods Locomotives for Holland



One of 15 4-6-0 express engines built by Nydqvist & Holm for service in Holland



The order from Holland included also 35 0-8-0 goods engines, one of which is illustrated above

Notes and News

Transport Nationalisation Bill.—In the House of Commons on Wednesday afternoon Mr. Alfred Barnes, Minister of Transport, introduced a Bill to nationalise inland transport, and it was given a first reading.

Junior Technical Assistant Required.—A junior technical assistant is required in a mechanical engineering office in London. Previous office experience and some knowledge of machine tools desirable. See Official Notices on page 627.

Cost-of-Living Index.—At November 1 the official cost-of-living index figure was 103 points above the level of July, 1914, showing no change as compared with October 1. At November 1, 1938, the cost-of-living index was 56 points above July, 1914.

Agreed Charges.—Applications for the approval of 59 further agreed charges under the provisions of Section 37 of the Road & Rail Traffic Act, 1933, have been lodged with the Railway Rates Tribunal. Notices of objection must be filed on or before December 10 next.

Executive Engineer Required.—An executive engineer is required by the Iraqi State Railways for three years in the first instance. Candidates should be corporate members of the Institution of Civil Engineers or hold a civil engineering degree, and must have had railway engineering experience. See Official Notices on page 627.

"Invicta" Now Convoys Motor Vehicles with Full Tanks.—Motor vehicles with their petrol tanks filled to capacity now can be shipped on board the Southern Railway "Golden Arrow" steamer *Invicta*. Hitherto, it has been necessary to empty tanks before shipment of passenger vehicles. Only cars not exceeding 16 ft. 9 in. in length can be accepted for shipment by the *Invicta*.

Colonial Government Appointment.—An administrative assistant, Class II, is required by the Government of Palestine for the railway department for three years, with prospect of permanency. Candidates, aged 25-35, must have had at least five years' experience on a British or Colonial railway and be able to undertake the organisation, supervision, and control, under the Chief Staff Officer, of the Staff Section of the General Management. See Official Notices on page 627.

Assistant Inspecting Engineer Required.—An assistant inspecting engineer 25-30 years of age, is required by the Sudan Government for services in its London Agency for duties in connection with the purchase and inspection of plant and stores required by the various departments. Essential qualifications include full engineering apprenticeship and subsequent experience covering as wide a range of engineering as possible, together with A.M.I.Mech.E., or equivalent. See Official Notices on page 627.

John Summers New Strip Mill.—John Summers & Sons Ltd., of Shotton, Chester, is running in at its Hawarden Bridge Steelworks a new 80-in. cold reduction reversing strip mill, the first important unit installed since the war as part of the company's expansion programme. The mechanical parts were made by the Davy & United Engineering Co. Ltd. and the main electrical gear by the Metropolitan-Vickers Electrical Co. Ltd. It is a four-high reversing mill designed to reduce hot-rolled pickled strip up to a width of 74 in.

A maximum coil weight of 10 tons can be handled. When it is in full operation the new mill will assist greatly in increasing the efficiency of production of wide high-quality sheets, such as those required by the motor industry, for which there is now an exceptional demand.

Great Indian Peninsula Railway Annuities.—It has been notified that on November 1, 1946, a total sum of £28,470,638 13s. 3d. was invested for the purpose of providing a sinking fund in respect of the annuities class "B."

Uruguay Northern Railway Co. Ltd.—Gross receipts of the railway for the year ended June 30 were £20,641, an increase of £1,058 on 1944-45. Despite increases in wage rates and in the cost of fuel and materials, the total expenses fell by £1,414 to £17,714, a decrease of 7 per cent. as against a rise of 5.4 per cent. in gross receipts. Net receipts, at £2,927, show an increase of £2,472.

Anglo-Scottish Railway Rating.—In our November 15 issue we dealt in an editorial article with the annual report of the Anglo-Scottish Railways Assessment Authority for the year to March 31, 1946. The impression was given that the fourth quinquennial period for the Scottish sections of the railways is the same as for England, whereas, in fact, the fourth period for England is from April, 1946, to March, 1951, and for Scotland it is Whit-Sunday, 1948, to Whit-Sunday, 1953.

F.B.I. Mission to Austria.—A trade mission led by Mr. C. F. I. Ramsden, Overseas Director, Federation of British Industries, has returned from Austria after inquiring into possibilities of co-operation between British and Austrian industry. Important provincial factories were visited. Members of the mission felt that the Austrian economy had considerable possibilities, but immediate difficulties were great. Bottlenecks were holding up Austria's exports and ability to earn foreign exchange, difficulties which the mission hoped to ease. Goods badly needed here might be imported from Austria, and Britain could give Austria technical advice on modern production technique.

Private Legislation Procedure: L.N.E.R.—Notice is given in *The London Gazette* in terms of section 1 (4) of the Private Legislation Procedure (Scotland) Act, 1936, that, the Secretary of State, the Chairman of Committees of the House of Lords, and the Chairman of Ways & Means in the House of Commons, having considered a representation by the London & North Eastern Railway Company that it is expedient that the undermentioned Parliamentary powers to be operative in Scotland and elsewhere which the company desires to obtain should be conferred by one enactment, have decided that the said powers would be more properly obtained by the promotion of a Private Bill than by the promotion of a Private Bill and of a Provisional Order under the said Act:—

(1) To authorise the London & North Eastern Railway Company to provide, maintain, equip and manage hotels or similar accommodation. To enable the company to acquire lands by agreement or to use lands already held by it for such purposes and to subscribe to the funds of or advance money to any company or person providing owning or leasing hotels.

(2) To confer further powers on police constables of the company for the search and arrest of certain persons, on or near to property or premises belonging or leased to, or worked by, the company either solely or jointly with any other company or companies or joint committee, suspected of stealing or of being in unlawful possession of property of or in charge of the company, to provide for

the imposition of penalties on such persons in certain circumstances and for the recovery thereof, and to authorise the stopping, detention and searching of any vessel or vehicle on or near the premises of the company in or on which there shall be reason to suspect that anything stolen or unlawfully obtained may be found.

Murex Welding Results.—There was a decrease of £90,143, to £142,392, in the trading profit of Murex Welding Processes Limited for the past year, but the same dividend of 20 per cent. is being maintained. Allocations during the year have

British and Irish Railway Stocks and Shares

Stocks	Highest 1945	Lowest 1945	Prices	
			Nov. 26, 1946	Rise Fall
G.W.R.				
Cons. Ord. ...	60½	47½	57	+ 2½
5% Con. Pref. ...	124½	104½	119½	+ 1
5% Red. Pref. (1950) ...	107½	101½	102½	+ 3
5% Rt. Charge ...	137½	120	133½	+ 2
5% Cons. Guar. ...	135½	117	131	+ 2
4½% Deb. ...	118	106	123½	+ 1
4½% Deb. ...	119½	108	124½	+ 1
4½% Deb. ...	124½	111½	125½	+ 2
5% Deb. ...	138	124	136	+ 3½
2½% Deb. ...	83	74½	92	+ 1
L.M.S.R.				
Ord. ...	33	23½	29	+ ½
4% Pref. (1923) ...	65	50	60½	+ 1
4% Pref. ...	80½	69½	81½	+ 1
5% Red. Pref. (1955) ...	106½	99½	100½	+ 3
4% Guar. ...	106½	97	102½	+ 2
4% Deb. ...	110½	102	113½	+ 1
5% Red. Deb. (1952) ...	110½	103½	103½	+ 3
L.N.E.R.				
5% Pref. Ord. ...	8½	5½	6½	+ ½
Def. Ord. ...	4½	2½	3½	+ 1
4% First Pref. ...	62½	49½	56½	+ 1
4% Second Pref. ...	33½	24½	28	+ 1
5% Red. Pref. (1955) ...	103	96	98½	+ 2
4% First Guar. ...	104½	95	96½	+ 1
4% Second Guar. ...	97	89½	92½	+ 2
3% Deb. ...	91½	82½	99½	+ 1
4% Deb. ...	109½	101	113½	+ 1
5% Red. Deb. (1947) ...	103½	100	99	—
4½% Sinking Fund	—	—	—	—
Red. Deb. ...	106½	103	102½	+ 3
SOUTHERN				
Pref. Ord. ...	79½	63	74½	+ ½
Def. Ord. ...	27	20½	23½	+ 2
5% Pref. ...	124½	104	118½	+ 3
5% Red. Pref. (1964) ...	117	107	110½	+ 2
5% Guar. Pref. ...	135½	117	131½	+ 2
5% Red. Guar. Pref. (1957) ...	117	106½	110½	+ 3
4% Deb. ...	117	104½	122½	+ 2
5% Deb. ...	137	124	133½	+ 4
4% Red. Deb. (1962-67) ...	112	104½	109½	+ 2
4% Red. Deb. (1970-80) ...	113½	104	111½	+ 2
FORTH BRIDGE				
4% Deb. ...	106	103	106½	—
4% Guar. ...	106	101	101	+ 1
L.P.T.B.				
4½% "A" ...	125	117	127½	+ 3
5% "A" ...	135	127	135½	+ 4
3% Guar. (1967-72) ...	100	97½	107	+ 1
5% "B" ...	125½	115	123	+ 3½
"C" ...	70	58	64½	—
MERSEY				
Ord. ...	37	31½	32	—
3% Perp. Pref. ...	72½	68½	73½	—
4% Perp. Deb. ...	104½	104	114	+ 1
3% Perp. Deb. ...	84	78½	92½	+ 3
IRELAND*				
BELFAST & C.D.				
Ord. ...	8½	6	7½	—
G. NORTHERN				
Ord. ...	34	24½	37½	—
Pref. ...	52½	42½	62	+ 3
Guar. ...	80	68	76	+ 4
Deb. ...	97½	87½	94½	—
IRISH TRANSPORT				
Common ...	—	—	19½	+ 5½
3% Deb. ...	—	—	107	+ 2

* Latest available quotation

OFFICIAL NOTICES

Crown Agents for the Colonies

COLONIAL GOVERNMENT APPOINTMENTS

APPLICATIONS from qualified candidates are invited for the following post:—

ADMINISTRATIVE ASSISTANT, CLASS II. required by the Government of Palestine for the Railway Department for 3 years, with prospect of permanency. Salary according to qualifications and experience in scale £P300, rising to £P600 a year, plus expatriation allowance of £P100 a year and cost-of-living allowance for single men of £P15.800 a month, and for married men between £P16.827 and £P19.039 a month, according to number of children. (£P1 = 1,000 mils = £1). Outfit allowance £40; free passages. Candidates aged 25 to 35 must have had at least 5 years' experience on a British or Colonial Railway and be able to undertake the organisation, supervision and control, under the Chief Staff Officer, of the Staff Section of the General Management. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/N/16173 on both letter and envelope.

EXECUTIVE ENGINEER required by the Iraqi State Railways for three years in the first instance. Salary between I.D.100 and I.D.110 a month, according to qualifications and experience, plus high cost of living allowance of I.D.24 a month. (I.D.1 = £1). Free passages, Provident Fund. Candidates should be Corporate Members of the Institution of Civil Engineers or hold a Civil Engineering Degree, and must have had railway engineering experience. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/N/12852 on both letter and envelope.

APPROXIMATELY 5,000 small Pneumatic Hand Tools, comprising assorted hammers, riveters and drills, made by Desoutter Bros., Broome & Wade, Aircraft Materials, Cleveland Pneumatic, Independent Pneumatic, Aircraft Motors Limited, Consolidated Pneumatic, Armstrong Whitworth, and various other first-class makers. All tools, although used, are in excellent condition and are offered on a very attractive basis for immediate delivery ex stock. Full schedule of quantities, types and descriptions is available on request to G.T.C., 82-94, Seymour Place, London, W.1.

Sudan Government

ASSISTANT INSPECTING ENGINEER

THE Sudan Government requires for service in its London Agency an Assistant Inspecting Engineer for duties in connection with the purchase and inspection of plant and stores required by the various departments of the Sudan Government.

Essential qualifications include full engineering apprenticeship and subsequent experience covering as wide a range of engineering as possible together with A.M.I.Mech.E., or equivalent. Age limit 25-30 years. Commencing salary £490 (including consolidated addition) with prospects of promotion and permanent service. Applications in writing giving particulars of age, qualifications and experience should be addressed to Chief Inspecting Engineer, Sudan Government Agency in London, Wellington House, Buckingham Gate, S.W.1. Envelope to be marked "ENGINEER."

WANTED immediately, Junior Technical Assistant in Mechanical Engineering Office in London. Previous office experience and some knowledge of Machine Tools desirable. Salary according to qualifications. Write giving age and experience to Box 1428, c/o CHARLES BARKER & SONS LTD., 31, Budge Row, London, E.C.4.

brought the consolidated general reserve up to £992,500, and the combined obsolescence funds now amount to £400,000. Income from investments, at £13,346, included £11,726 interest and dividends in respect of 1940-44 on the holding in a Norwegian company.

A.E.C. Final Dividend.—At a meeting of the board of the Associated Equipment Co. Ltd., held on November 18, it was decided to recommend the following dividend: final dividend on ordinary stock of 2s. per £1 of stock, free of income tax, making 2s. 6d., free of income tax, for the year ended September 30, 1946. Net profits for the year, subject to final audit, are stated to be £357,500, compared with £218,500 in 1944-45.

L.N.E.R. Continental Services at Christmas.—During the Christmas period the Harwich-Hook of Holland services in both directions will be cancelled on December 25 and 26. There will be no alteration to the Harwich-Antwerp services. The Harwich-Esbjerg service scheduled to run on December 20 will be cancelled and transferred to December 21, maintaining the usual times and connections as for the Friday service. The Harwich-Esbjerg service will be cancelled on December 24 and 26 from Harwich, and on December 23 and 25 from Esbjerg.

New Wood Lane Station, London Transport.—Work is in progress on a new station at Wood Lane on the Central Line of London Transport. The station is being built slightly to the north of the existing one, and will provide direct access by subway to the White City stadium. There will be three platforms, of sufficient length to accommodate eight-car trains. It is hoped to bring the station into use simultaneously with the opening of the eastern extension of the Central Line to Loughton and Hainault in the autumn of next year.

F.B.I. Statement on Transport Nationalisation.—A recent statement by the Federation of British Industries confirms adherence to its opposition to the Government proposals for nationalisation of inland transport. The organisation and management problems attending the creation of even the existing railway groups were great. To launch proposals for a unit so complex and vast as the whole inland transport of the United Kingdom, even after lengthy and careful preparation, must involve grave risks of reducing efficiency and increasing costs to the detriment of our competitive position on which depends the maintenance of our standard of life.

The Federation calls for a public enquiry, so that the facts may be exposed fully, and digested. If the Government introduces legislation at an early date, the Federation urges that it should ask Parliament to send any such Bill to a Select Committee to enable full evidence to be tendered on the potential dangers, before the country is committed irrevocably to a perilous experiment.

Refrigerated Transport by Rail.—At a meeting of the Midland Section of the Institute of Transport, on December 3, at 6.30 p.m., at the Imperial Hotel, Birmingham, a paper on "Refrigerated Transport by Rail" will be given by Mr. W. P. Bradbury, O.B.E., M.Inst.T.

Derailment near Preston, L.M.S.R.—Five passengers were injured seriously when the 8.20 a.m. express from Carlisle to Euston was derailed north of Preston on November 22, and was in collision with a northbound train from Liverpool to Glasgow. A railway fireman who was a passenger in the Euston train ran down the line after the derailment, and succeeded in signalling to the driver of the Glasgow train, which, however, scraped along the whole length of the derailed train before coming to a standstill. Windows were broken in both trains, and the last three coaches of the London train were wrecked.

Railway Stockholders and Nationalisation.—A meeting of railway stockholders is to be held at the May Fair Hotel, London, W.1, on December 6, to demand a public inquiry before nationalisation of inland transport, and in the event of nationalisation being recommended, fair compensation to stockholders fixed by an independent tribunal. A petition to Parliament against nationalisation is being organised. Petition forms may be obtained by sending stamped and addressed envelope to Mr. Austin E. Kavanagh, F.C.A., 108a, Cannon Street, London, E.C.4, or 1, Chancery Lane, Manchester, 2.

New Tunnel at Thurgoland, L.N.E.R.—The Thurgoland double-line tunnel of the L.N.E.R. between Wortley and Penistone, first brought into use on July 14, 1845, when the Dunford Bridge-Sheffield section of the Manchester-Sheffield main line was opened for traffic, is to be supplemented by a single-line tunnel driven alongside it. The work is necessary because the present tunnel is of insufficient height for the overhead equipment required on the Manchester-Sheffield electrification. When complete, the new tunnel will be used for

down traffic and the original double-line tunnel for up traffic. Although the new tunnel, which is to be concrete lined, will be less than a quarter of a mile long, the work will cost approximately £124,000.

Argentine Rail Negotiations.—It is reported from Buenos Aires that negotiations between the British Railway Mission and the Argentine representatives on the new mixed Anglo-Argentine company to operate the railways are beginning this week. The Argentine Government has now appointed a technical sub-commission to conduct the talks.

Patents: "Licences of Right."—D. Napier & Son Ltd. has made application for the cancellation of the indorsement "Licences of Right" on the patent granted to it for an invention entitled "Improvements in or relating to Unidirectional Driving Devices," numbered 503,523, and bearing date October 6, 1937. Any person may give notice of opposition to the application by lodging Patents Form No. 24 at the Patent Office, 25, Southampton Buildings, London, W.C.2, on or before November 23, 1946.

Platform Renumbering at Edinburgh (Waverley).—The L.N.E.R. announces that as from November 24 the two platforms at Waverley Station, Edinburgh, at present known as "Suburban" platforms will be redesignated Nos. 20 and 21 respectively. Originally they were used exclusively for trains on the Edinburgh Suburban line, but they have come gradually to be used more and more for main-line services. It is felt that the position will be simplified for travellers, especially strangers to the station, by discarding the term "Suburban" and allocating the above numbers. With this alteration all the platforms at Edinburgh (Waverley) now will bear numbers.

Forthcoming Meetings

December 6 (Fri.)—The Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1. 5.30 p.m. "Free-Piston Compressor-Engines," by Mr. H. O. Farmer, M.C., B.Sc., A.M.I.Mech.E.

December 7 (Sat.)—The Permanent Way Institution (Manchester & Liverpool Section) at Onward Hall, Deansgate, Manchester. Annual Meeting and Lecture by the Chairman, Mr. K. C. Marrian, M.Inst.C.E., of Manchester.

Railway Stock Market

Although international politics and the latest news from the U.S.A. checked the upward trend in stock markets, business remained on a considerable scale, dominated by the "compensation" terms in respect of home rails. Stockholders are recognising more fully the big loss of income involved, and there has been further considerable selling for reinvestment into industrial and other securities offering a higher return than gilt-edged stocks. Industrials failed to hold all earlier gains, but there appeared to be little profit-taking in evidence, although buying became a good deal more selective. British Funds eased on the prospect of the issue of £1,000,000,000 of Government stock arising from the Minister of Transport's proposals. This stock, it is assumed, is likely to carry interest at 2½ per cent. and will be irredeemable; full details are expected before the end of the year. Meanwhile, however, the railway developments are serious for many trustees, who will find it virtually impossible to obtain other trustee stocks giving a similar yield to home rails. The date of issue of the new Government stock has not yet been announced; according to some views, compensation stock for some of the prior charges may carry varying rates of interest. Although there was considerable selling of home rails, which has kept them below the "take-over" prices announced by the Minister of Transport, institutional investors were watching prices closely and when considered opportune have purchased home rails, particularly prior charges, which in some quarters have been favoured as an interesting gilt-edged option.

Many stockholders feel that newspaper comments on the "compensation" terms

have been very complacent. Although the loss of income involved now seems to be widely understood, it would appear that not enough emphasis is being given to the railways' claim to standard revenue, the big profit made by the Government out of the railways during the war period, nor to the fact that in many instances increased dividend payments on ordinary or equity stocks could have been made if considerable sums had not been reserved for development and modernisation. Indications are that opposition to the Government's plans will grow and that there is likely to be a widespread demand for compensation being decided by an independent tribunal.

At the time of writing, Great Western ordinary at 57 compares with 56 a week ago, and with a "take-over" price of 59½. Great Western 5 per cent. preference receded to 120, or 5 points below the take-over level, while the 5 per cent. guaranteed stock at 132½ is also well below the latter, as are the 4 per cent. debentures, which are also virtually at the same price as immediately preceded the Minister of Transport's compensation statement. This also applies to many stocks of the other railways, although L.M.S.R. at 29 has improved fractionally on balance, the senior preference gained a point and also the 1923 preference. L.N.E.R. preferred and deferred improved fractionally; and the first and second preference were also better, although well below "take-over" levels. Southern preferred at 74½ was fractionally better on balance, and the deferred has moved up from 20½ to 23 (a point below the take-over value); but the 5 per cent. preference and 4 per cent. debentures were

unchanged on balance. On the other hand there has been considerable selling of London Transport issues, which it is felt in many quarters will have particularly unfair treatment if the Government's plans go through. London Transport "C" at 64½ was unchanged on balance, but the 4½ per cent. "A" stock was only 127½, compared with 132 a week ago, while the 5 per cent. "A" declined from 142½ to 140, and the 5 per cent. "B" from 128½ to 123½. Metropolitan Assented stock, which is not included in the nationalisation schemes, was 56½, compared with 58 a week ago.

Argentine rails have failed to hold earlier gains, partly owing to the increase in working expenses indicated by the annual results that have so far come to hand. Moreover, there were fears in the market that the unfair proposals in respect of home railway stockholders may have some influence on the final outcome of the terms for holders of stocks in the Argentine railways. The disposition was to sell ordinary and preference stocks, but various of the debentures of the leading companies were favoured. Buenos Ayres Great Southern 4 per cent. strengthened to 85½ and Central Uruguay debentures received some attention, although Buenos Ayres & Pacific debentures lost a little ground. San Paulo ordinary remained active, but at 117 failed to hold best levels, although some market estimates of break-up values suggest that the stock may still be undervalued. United of Havana 1906 debentures were 16½ and Antofagasta preference 51½. Canadian Pacific eased to 16½, but on the other hand, yield considerations drew attention to the preference and debenture stocks.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week			No. all Week	Aggregate traffic to date			Shares or Stock	Prices		
				Total this year	Inc. or dec. compared with 1944-5			Totals		Increase or decrease		Highest 1945	Lowest 1945	November 26, 1946
								1946-7	1945-6					
South & Central America	Antofagasta ...	834	17.11.46	£ 32,660	+ £ 2,770	46	£ 1,546,340	£ 1,355,960	+ £ 190,380	Ord. Stk.	12	8½	10½	
	Arg. N.E. ...	753	16.11.46	ps. 358,700	+ ps. 81,500	20	ps. 6,259,900	ps. 6,108,900	+ ps. 150,000	"	10	5½	17	
	Bolivar ...	174	Oct., 1946	4,543	+ 71	43	42,952	48,577	+ 5,625	6 p.c. Deb.	8½	5½	6½	
	Brazil ...	—	—	—	—	—	—	—	—	Bonds	25	17	27½	
	B.A. Pacific ...	2,771	16.11.46	ps. 2,371,000	+ ps. 71,000	20	ps. 44,264,000	ps. 40,340,000	+ ps. 3,924,000	Ord. Stk.	7	5	6½	
	B.A.G.S. ...	5,080	16.11.46	ps. 3,377,000	+ ps. 145,000	20	ps. 64,385,000	ps. 60,766,000	+ ps. 3,619,000	Ord. Stk.	13½	10½	12½	
	B.A. Western ...	1,924	16.11.46	ps. 1,199,000	+ ps. 14,000	20	ps. 23,987,000	ps. 22,709,000	+ ps. 1,278,000	"	12½	9½	15½	
	Cent. Argentine	3,700	16.11.46	ps. 3,237,500	+ ps. 294,850	20	ps. 62,314,625	ps. 60,501,800	+ ps. 1,812,825	"	9½	7	9½	
	Do.	—	—	—	—	—	—	—	—	Dfd.	5	2½	5	
	Gent. Uruguay ...	970	16.11.46	41,795	+ 132	20	727,682	704,739	+ 22,943	Ord. Stk.	7½	4	9½	
	Costa Rica ...	262	Aug., 1946	36,220	+ 4,160	9	73,313	63,153	+ 10,160	Stk.	16½	13	9	
	Dorada ...	70	Oct., 1946	30,100	+ 1,700	43	309,975	301,535	+ 8,440	1 Mt. Deb.	103	102	102½	
	Entre Rios ...	808	16.11.46	ps. 488,100	+ ps. 65,500	20	ps. 8,333,000	ps. 8,436,400	+ ps. 103,400	Ord. Stk.	7½	4½	6½	
	G.W. of Brazil	1,030	16.11.46	38,400	+ 4,000	46	1,322,500	1,154,700	+ 167,800	Ord. Stk.	30	23½	21	
	Inter. Ctl. Amer.	794	Oct., 1946	\$685,711	+ \$59,353	43	\$8,710,553	\$7,944,002	+ \$8,216,551	"	9½	7	9½	
	La Guaira ...	22½	Oct., 1946	4,672	+ 1,463	43	56,461	62,380	+ 5,739	5 p.c. Deb.	78	70	60	
	Leopoldina ...	1,918	16.11.46	63,481	+ 5,480	46	2,793,952	2,455,927	+ 338,025	Ord. Stk.	4	3½	4	
	Mexican ...	483	31.5.46	ps. 1,464,000	+ ps. 459,100	22	ps. 7,706,200	ps. 13,441,600	+ ps. 5,735,400	Ord. Stk.	4	3	4	
	Midland Uruguay	319	Oct., 1946	18,562	+ 791	17	80,166	75,014	+ 5,152	"	75	67½	71½	
	Nitrate ...	382	15.11.46	9,482	+ 1,189	46	187,668	164,215	+ 23,453	Ord. Sh.	75	67½	71½	
N.W. of Uruguay	113	Oct., 1946	4,444	+ 3,192	17	22,594	23,391	+ 797	"	79½	77	73½		
Paraguay Cent.	274	15.11.46	\$65,240	+ \$13,166	20	\$1,127,981	\$1,194,989	+ \$67,008	Pr. Li. Stk.	10½	7½	8		
Peru Corp. ...	1,059	Oct. 1946	153,237	+ 11,145	17	629,700	564,925	+ 64,775	Pref.	10½	7½	8		
Salvador ...	100	Aug., 1946	c108,000	+ c14,000	9	c190,000	c189,000	+ c1,000	"	—	—	—		
San Paulo ...	153½								Ord. Stk.	60½	50½	116½		
Taital ...	156	Oct., 1946	6,895	+ 3,870	18	20,155	9,690	+ 10,465	Ord. Sh.	17	10½	22½		
United of Havana	1,301	16.11.46	40,312	+ 10,871	20	1,009,890	911,837	+ 98,053	Ord. Stk.	3	1	1½		
Uruguay Northern	73	Oct., 1946	1,366	+ 919	17	5,210	7,348	+ 2,138	"	—	—	—		
Canada	Canadian National ...	23,482	Sept., 1946	8,607,000	+ 252,530	39	72,529,500	81,830,000	+ 9,300,500	"	24	14½	16½	
	Canadian Pacific	17,037	21.11.46	1,512,000	+ 33,250	46	64,984,750	70,784,500	+ 5,799,750	Ord. Stk.	24	14½	16½	
Various	Barsi Light ...	202	Sept., 1946	15,112	+ 1,500	26	144,427	131,265	+ 13,162	Ord. Stk.	131	123	113½	
	Beira ...	204	Sept., 1946	90,848	+ 17,126	52	950,694	920,575	+ 30,119	"	10	8½	5	
	Egyptian Delta	607	31.10.46	24,481	+ 1,239	34	376,019	350,255	+ 25,764	Prf. Sh.	71	55½	64	
	Manila ...	—	—	—	—	—	—	—	—	B. Deb.	97½	85	70	
	Mid. of W. Australia...	277	Sept., 1946	18,676	+ 2,858	13	48,623	45,268	+ 3,355	Inc. Deb.	—	—	—	
	Nigeria ...	1,900	Sept., 1946	355,942	+ 105,199	26	2,251,155	1,316,308	+ 934,807	"	—	—	—	
	Rhodesia ...	2,445	Sept., 1946	511,147	+ 24,052	52	6,174,663	6,059,663	+ 115,000	"	—	—	—	
	South African	13,323	26.10.46	1,174,591	+ 160,306	29	33,583,722	29,990,066	+ 3,593,656	"	—	—	—	
	Victoria ...	4,774	May, 1946	1,351,280	+ 4,246	—	—	—	—	"	—	—	—	

† Receipts are calculated @ 1s. 6d. to the rupee